

Chris-Craft

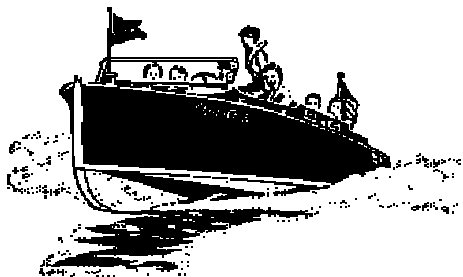
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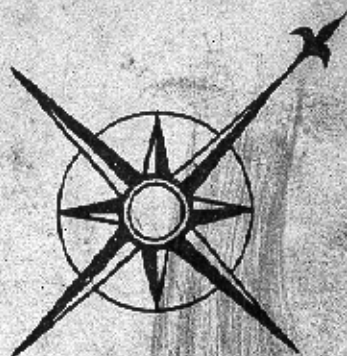
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PARTS LIST

for

DISO BOTH NEW
SAME



Chris-Craft



MARINE ENGINES

MODEL "283" V-8 ENGINE

MODEL "283M" V-8 ENGINE

with chain → 18436592

with gear → 12756348

APRIL, 1970

REPRINT #9

CHRIS CRAFT CORPORATION

PRINTED IN USA

ALPHABETICAL INDEX

| SUBJECT | PAGE | SUBJECT | PAGE |
|---|------------|---------------------------------|------------|
| ADAPTER, Tachometer | 45 | HEAD, Cylinder | 13, 14 |
| Alternator | 37 | | |
| Arm, Rocker | 13 | LIFTING Rings | 23, 25, 27 |
| Arrestor, Flame | 23, 25, 27 | Lifters, Valve | 13 |
| BEARINGS, Connecting Rod | 11 | MANIFOLD, Exhaust | 15 |
| Bearings, Main | 10 | Manifold, Intake | 23 |
| Belt, Alternator | 37 | Mounts, Front & Rear | 17, 18 |
| Belt, Generator | 38 | | |
| Block, Cylinder | 7 | PAN, Oil | 18, 19 |
| CABLES, Ignition | 44 | Piston and Pin Ass'y. | 11 |
| Camshaft | 9 | Pump, Fuel | 34, 35 |
| Carburetor | 23, 25, 27 | Pump, Oil | 19, 20 |
| Coil, Ignition | 44 | Pump, Sea Water | 30, 31, 32 |
| Covers, Engine - Front, Rear | 17 | Pump, Water - Drive Ass'y. | 29 |
| Cover, Valve | 14 | Push Rods | 13 |
| Crankshaft | 9, 10 | REGULATOR, Voltage - Alternator | 37 |
| DECALS | 7, 44 | Regulator, Voltage - Generator | 38 |
| Distributor, Ignition | 43 | Rings, Piston | 11 |
| Drive, Tachometer | 45 | Riser, Exhaust | 15, 16 |
| ENGINE, Assembly | 7 | Rocker Arm | 13 |
| Engine Fastenings for Positive Drive (Bobtail) | 79 | Rods, Connecting | 11 |
| FILLER, Oil | 20 | Rods, Push | 13 |
| Filter, Fuel | 34 | SOLENOID, Starting Motor | 44 |
| Filter, Oil | 20 | Spark Plugs | 5, 45 |
| Flywheel | 29 | Specifications | 4, 5 |
| GASKETS, Overhaul | 7 | Starting Motor | 41 |
| Gaskets, Valve Grind | 7 | Strainer, Oil | 20 |
| Gear, Reduction - 1-1/2 : 1 | 74, 75 | Stud, Grounding | 44 |
| Gear, Reduction - 2 : 1 | 75, 76 | TACHOMETER Drive | 45 |
| Gear, Reduction - 2-1/2 : 1 | 76, 77 | Test Rod, Oil | 20 |
| Gear, Reduction - 3 : 1 | 78 | VALVE, Mixing | 16 |
| Gear, Reverse - Hydraulic HF-2 | 52 - 61 | Valves | 12 |
| Gear, Reverse - Hydraulic HF-71-R | 62 - 72 | Ventilator, Crankcase | 36 |
| Gear, Reverse - Manual | 46 - 51 | | |
| Generator | 38, 39, 40 | | |
| Gear, Reverse - Hydraulic P-300 | 80 - 87 | | |

ORDERING INSTRUCTIONS

1. ALWAYS give engine number when ordering parts.
2. ORDER REPLACEMENT PARTS from your nearest franchised CHRIS CRAFT Dealer.
3. FOR PARTS AND ACCESSORIES:

CHRIS-CRAFT CORPORATION
Parts Department
Algonac, Michigan

4. FOR SERVICE POLICIES and INFORMATION:

CHRIS-CRAFT CORPORATION
Service Department
Pompano Beach, Florida

5. Items marked with an "*" are General Motors numbers, and these parts are available from Chevrolet Dealers.

ENGINE SPECIFICATIONS

MODEL "283" ONLY

Horsepower (at shaft) 185 at 4000 RPM
 Maximum Torque 261 ft. lbs. at 3000 RPM
 Carburetion Single four barrel downdraft carburetor

MODEL "283M" ONLY

Horsepower 150 at 4000 RPM
 Maximum Torque 228 ft. lbs. at 2600 RPM
 Carburetion Single two barrel downdraft carburetor

COMMON TO MODELS "283" AND "283M"

Type 4 Cycle, Valve-in-Head, V8
 Bore 3-7/8 inches
 Stroke 3 inches
 Piston Displacement 283 cubic inches
 Revolutions Sustained speed in excess of 4000 RPM will void the factory warranty. A top cruising speed not in excess of 3600 RPM is recommended.

Weight (Without Oil and Water) "283" 712 lbs. (Approximate)
 "283-R15" 764 lbs. (Approximate)
 "283-R20" 785 lbs. (Approximate)
 "283-R25" 785 lbs. (Approximate)

Nominal Compression Ratio 8.0:1 (By Volume)

Compression 120 - 140 LBS. PSI.

Minimum Recommended Idle Speed 500 RPM

Oil Pressure 18 lbs. at Idle (Approximate)

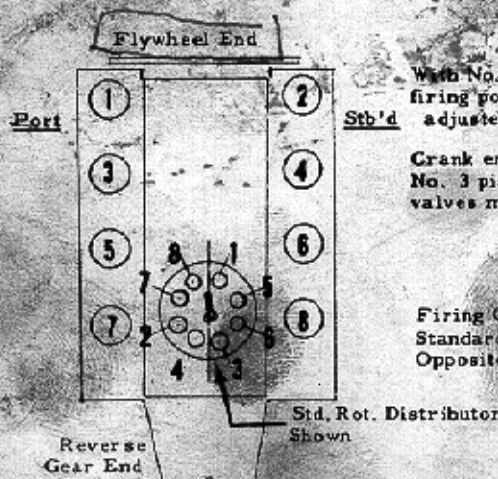
Oil Pan Capacity 35 to 45 lbs. Maximum Speed (hot)
 Approximately 5 or 6 qts. Direct Drive.
 Capacity will vary with running angle

Reverse Gear Lubrication Manual Reverse Gear lubricated in common with engine oil. Hydraulic Reverse Gear lubricated by separate self-contained system.

Tachometer Drive Mechanical for Std. or Opp. Rotation
 engines turning at one-half engine speed and located forward on top of Intake Manifold.

Alternator Charging Rate 12 Volt System - 40 Amps. Max.
 Regulator Control - Negative Ground

Cylinder Numbering:



With No. 8 piston on Top Dead Center in firing position, following valves may be adjusted:

Exhaust 8-6-5-1
 Intake 8-7-4-2

Crank engine one complete revolution with No. 3 piston in firing position and following valves may be adjusted:

Exhaust 7-5-3-2
 Intake 6-5-3-1

Firing Order -
 Standard Rotation
 Opposite Rotation

1-5-6-3-4-2-7-8
 1-8-7-2-4-3-6-5

Chris-Craft

WORLD'S LARGEST BUILDER OF MOTOR BOATS

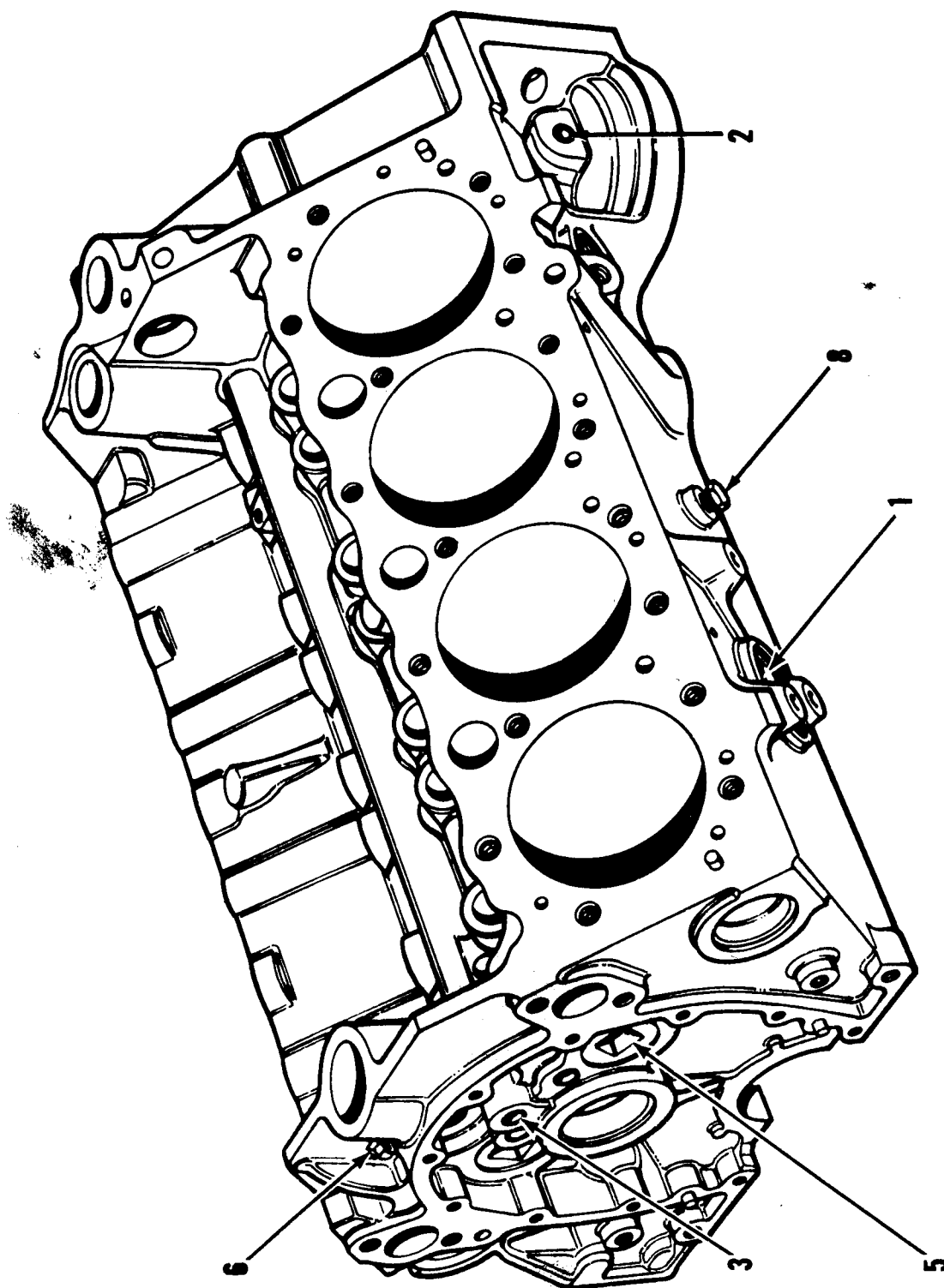
ADJUSTMENT AND ASSEMBLY INFORMATION

(Dimensions given in inches)

| | | | |
|--|---|-------------|--------|
| Valve Lash - Engine Hot | Intake Valve | - | .008 |
| | Exhaust Valve | - | .018 |
| Valve Seat | Intake - Width 1/16" to 3/32" - Angle 46° | | |
| | Exhaust - Width 3/32" to 1/8" - Angle 46° | | |
| Valve Stem Clearance | Intake | .001 to | .0027 |
| | Exhaust | .0017 to | .0034 |
| Piston Clearance (at Skirt) | | .0006 to | .001 |
| Piston Fit | .0015 Feeler - 4 to 6 lb. Pull | | |
| Piston Pin Clearance in Piston | | .00015 - | .00025 |
| Piston Pin Clearance in Conn. Rod - Shrink in Rod | | | |
| Piston Ring Gap | Compression - Upper | .010 - | .020 |
| | Compression - Lower | .010 - | .020 |
| | Bottom Groove - Oil | .015 - | .055 |
| | | (On Rails) | |
| Piston Ring Side Clearance in Groove Compression - Upper | | .0012 | .0032 |
| | Compression - Lower | .0012 - | .0032 |
| | Bottom Groove - Oil | .0006 - | .0084 |
| Connecting Rod Bearing Clearance | | .001 - | .004 |
| Connecting Rod Side Clearance (two rods) | | .008 - | .014 |
| Crankshaft Main Bearing Clearance | | .001 - | .004 |
| Crankshaft End Play - Thrust Clearance | | .002 - | .006 |
| Crankshaft Journal Diameters | | | |
| Main - Standard | 2.2978 | - | 2.2988 |
| Connecting Rod - Standard | 1.999 | - | 2.000 |
| Camshaft Journal Diameter | 1.8682 | - | 1.8692 |
| Camshaft Bearing Clearance | .0015 | - | .0035 |
| Distributor Shaft End Play | .003 | - | .010 |
| Camshaft End Play | .002 | - | .004 |
| Crankshaft Sprocket Backlash to Camshaft Sprocket (Chain Drive)-Std. Rot. | .0035 | - | .0095 |
| Crankshaft Gear Backlash to Camshaft Gear Opp. Rot. | .003 | - | .005 |
| Tach. & Oil Pump Drive Gear Backlash to Camshaft | .007 | - | .011 |
| Distributor Drive Gear Backlash to Distributor Driven Gear | .002 | - | .005 |
| Distributor Point Gap - for Prestolite Distributor | .017 | - | |
| - for Delco-Remy Distributor | .016 | - | |
| Distributor Cam Dwell - for Prestolite Distributor | 27° | - | 31° |
| - for Delco-Remy Distributor | 26° | - | 33° |
| Spark Plug Champion UJ-6 | Gap .025 | | |

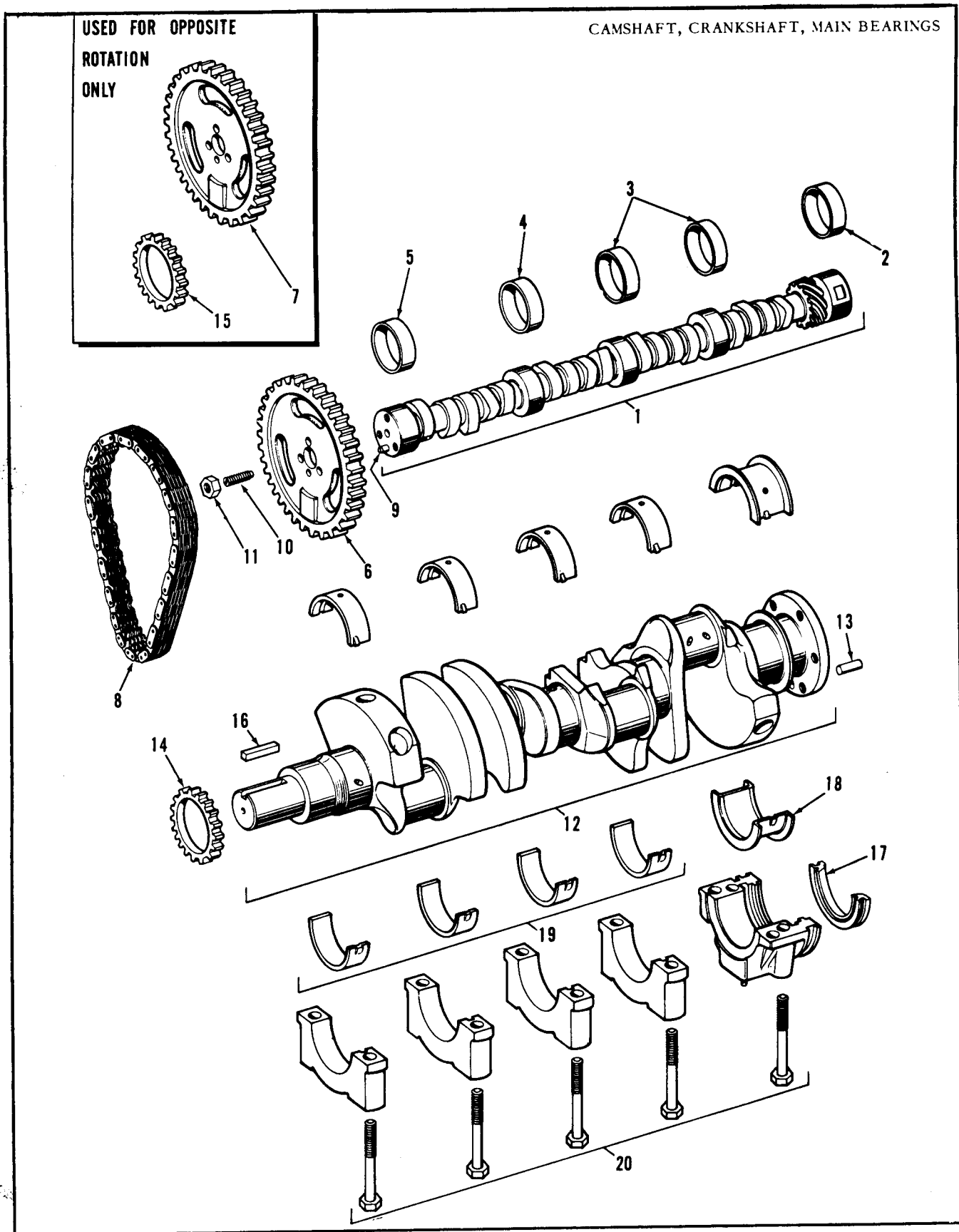
TORQUE SPECIFICATIONS

| | | |
|----------------|-------------|-----------------|
| Cylinder Head | 65 ft. lbs. | (oiled threads) |
| Connecting Rod | 33 ft. lbs. | |
| Main Bearings | 65 ft. lbs. | |
| Flywheel | 60 ft. lbs. | |
| Manifold | 30 ft. lbs. | |
| Spark Plug | 23 ft. lbs. | |



CYLINDER BLOCK

| Code No. | Part No. | No. Req'd | Name |
|----------|-------------|-----------|--|
| | | | STRIPPED ENGINE |
| | 16.11-10020 | 1 | Engine Assembly - partial - "283" Std. Rot. |
| | 16.11-10021 | 1 | Engine Assembly - partial - "283" Opp. Rot. |
| | | | Note: Engine Assembly - partial includes a complete cylinder block assembly with crankshaft, camshaft, connecting rods, pistons and timing gears installed. |
| | | | CYLINDER BLOCK |
| | 16.11-00266 | 1 | Cylinder Block Assembly |
| | | | Note: Cylinder Block assembly includes fitted piston and ring assemblies and bearings. |
| | | | Note: Following change will have to be made in the Cylinder Block Assembly as supplied by Chevrolet to make it suitable for marine use. |
| | | | Replace eight steel cup plugs 1-5/8" with Chris Craft 16.74-10000 Brass Cup plugs and replace one steel cup plug 3/8" with Chris Craft 16.74-10001 cup plug. |
| 1 | 16.74-10000 | 8 | Cup Plug 1-5/8" Brass |
| 2 | 16.74-10001 | 1 | Cup Plug 3/8" Brass |
| 3 | 16.11-00090 | 6 | Cup Plug 1/2" (Oil Galleries) |
| | 16.11-00089 | 1 | Cup Plug 2-1/8" (Camshaft Front Bearing Hole) |
| 5 | | 2 | Plug 1-1/4" Square Socket (Water Jacket) *3836903 |
| 6 | 16.11-00084 | 1 | Pipe Plug 1/8" Square Head |
| | 16.11-00091 | 3 | Pipe Plug 1/4" Square Head (Oil Galleries) |
| 8 | 16.58-17982 | 2 | Valve Drain 1/4" Brass (Water Drain - one each side block) |
| | 16.58-10061 | 1 | Elbow, 45° 1/2" P T |
| | 16.11-00086 | 4 | Dowel Pin 1/4" x 5/8" (two at oil pump flange, two to align cover) |
| | | | Used before Std. Rot. serial No. 823321 except 823298, 823299, 823302, 823303, 823312, 823315, 823316, 823318, and before Opp. Rot. serial No. 823343, except 823326, 823327, 823328, 823332, 823334, 823341, including 823360 and 823367. |
| | 16.72-07246 | 2 | Step Dowels (to align rear cover) |
| | | | Used after Std. Rot. serial No. 823320 including above exceptions and Opp. Rot. serial No. 823342 including above exceptions except 823360 and 823367. |
| | 16.11-00093 | 2 | Dowel Pin 5/8" diam. Starboard. (align front cover, Port and Starboard) |
| | 16.11-00092 | 4 | Dowel Pin 5/16" x 9/16" (at cylinder heads) |
| | | | GASKET SET |
| | 16.50-90005 | 1 | Complete set of Gaskets (Reduction Gear Gaskets must be ordered separately when required.) |
| | 16.50-90084 | 1 | Valve Grind Gasket Set - Engines with Rochester Carburetor. |
| | 16.50-90085 | 1 | Valve Grind Gasket Set - Engines with Carter Carburetor. |
| | | | DECALS |
| | 16.92-07753 | 2 | "Horsepower & Engine Model" Decal (283 & 283H) |
| | 16.92-07761 | 1 | Fuel Recommendation Decal |
| | 16.92-07602 | 1 | Rotation Decal - Right Hand Rotation |
| | 16.92-07601 | 1 | Rotation Decal - Left Hand Rotation |

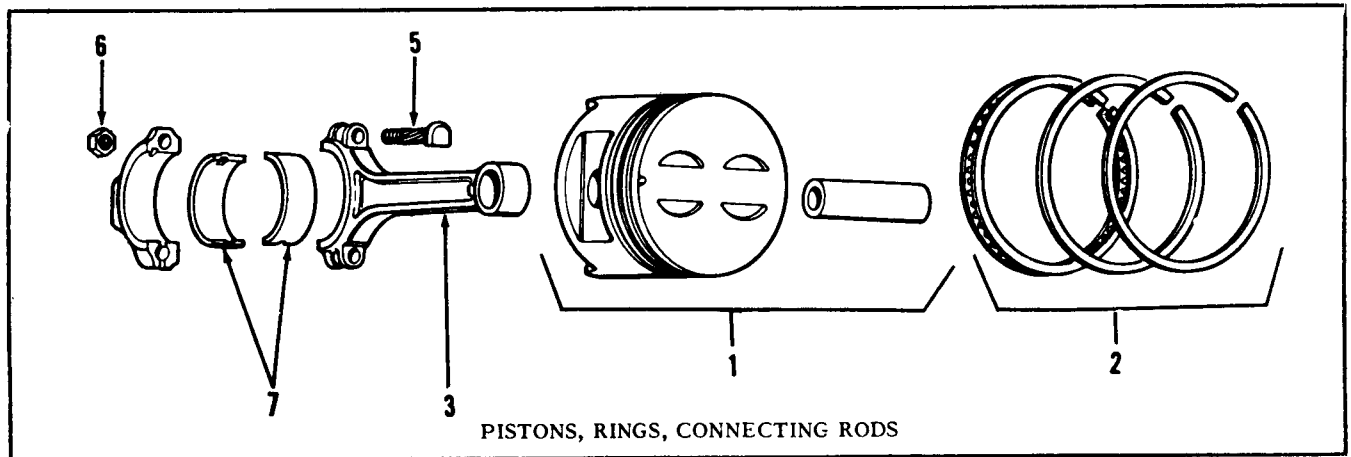


| Code No. | Part No. | No. Req'd | Name |
|---|-------------|-----------|--|
| CAMSHAFT | | | |
| 1 | 16.11-00080 | 1 | Camshaft Assembly - Std. Rot. |
| | 16.11-00029 | 1 | Camshaft Assembly - Opp. Rot. |
| Note: It is very important that special camshaft lubricant be applied liberally to prevent damaging camshaft lobes when new camshaft or valve lifters are installed. This lubricant can be ordered from Chris-Craft using part number 56.00-20630 | | | |
| 2 | 16.11-00182 | 1 | Camshaft Front Bearing (Stamped 5) |
| 3 | 16.11-00143 | 2 | Camshaft Front Inter. & Center Bearing (Stamped 3 & 4) |
| 4 | 16.11-00142 | 1 | Camshaft Rear Inter. Bearing (Stamped 2) |
| 5 | 16.11-00141 | 1 | Camshaft Rear Bearing (Stamped 1) |
| 6 | 16.11-00046 | 1 | Camshaft Sprocket - Std. Rot. Used after Std. Rot. serial No. 823320 |
| Note: The Std. Rot. camshaft sprocket 16.11-00046 may be used on earlier engines only if the new type roller chain 16.11-00045 and crankshaft sprocket 16.11-10044 are used also. | | | |
| 7 | 16.11-00030 | 1 | Camshaft Gear - Opp. Rot. |
| 8 | 16.11-00045 | 1 | Camshaft Timing Chain - Std. Rot. Used after Std. Rot. serial No. 823320 |
| Note: The Std. Rot. timing chain 16.11-00045 may be used on earlier engines only if the new type camshaft sprocket 16.11-00046 Crankshaft sprocket 16.11-10044 are used also. | | | |
| and crankshaft sprocket 16.11-10044 are used also | | | |
| Distributor" (Code #27 on page 43) | | | |
| 9 | 16.11-00086 | 1 | Camshaft Dowel Pin |
| 10 | 16.34-46012 | 1 | Camshaft Thrust Screw (Mounted in Rear Cover) |
| 11 | 16.36-00004 | 1 | Camshaft Thrust Screw Locknut - 3/8" - 16 Std. |
| CRANKSHAFT | | | |
| 12 | 16.11-00032 | 1 | Crankshaft Assembly, Used before Std. Rot. serial No. 823321 except 823298, 823299, 823302, 823303, 823312, 823315, 823316, 823318, and before Opp. Rot. serial No. 823343, except 823326, 823327, 823328, 823332, 823334, 823341, including 823360 and 823367 |
| 12 | 16.11-08282 | 1 | Crankshaft Assembly, Used after Std. Rot. serial No. 823320 including above exceptions and Opp. Rot. serial No. 823342 including above exceptions except 823360 and 823367. |
| 13 | 16.11-00096 | 1 | Flywheel Dowel Pin |

| Code No. | Part No. | No. Req'd | Name |
|---|-------------|-----------|---|
| CRANKSHAFT (Cont'd) | | | |
| 14 | 16.11-10044 | 1 | Crankshaft Sprocket - Std. Rot. Used after Std. Rot. serial No. 823320 |
| Note: The Std. Rot. crankshaft sprocket 16.11-00044 may be used on earlier engines only if the new type timing chain 16.11-00045 and camshaft sprocket 16.11-10046 are used also. | | | |
| 15 | 16.11-00028 | 1 | Crankshaft Gear - Opp. Rot. |
| 16 | 16.45-00006 | 1 | Crankshaft Key (Before Engine Serial Number 839999) |
| 16 | 16.11-00098 | 2 | Key, Woodruff (NOTE: One (1) used for crankshaft gear and/or Sprocket and one (1) used for damper drive hub (283H) and/or engine gear (283) after engine Serial number 839998) |
| 17 | | 2 | Crankshaft Front Oil Seal - Wick Type (*3704783) - Used in blocks with casting No. 3737739 before Engine Ser. No. - Std. Rot. 800439 (also 800440, -441, -443, -444, -445, -446, -447, -451, -452, -453, -455, -481, -485, -486, -508 & -509) and Opp. Rot. 800634. |
| | 16.51-10026 | 2 | Crankshaft Front Oil Seal - Rubber w/steel insert. Used in blocks with casting No. 3756519 after Engine Ser. No. Std. Rot. 800438 (except numbers listed above in parentheses) and Opp. Rot. 800633. |

MAIN BEARINGS

| | | | |
|----|-------------|----|--|
| 18 | 16.11-00108 | 1 | Main Bearing - Front - Std. (includes Upper & Lower) |
| 18 | 16.11-00109 | 1 | Main Bearing - Front - .001 U. S. |
| 18 | 16.11-00243 | 1 | Main Bearing - Front - .002 U. S. |
| 18 | 16.11-00244 | 1 | Main Bearing - Front - .010 U. S. |
| 18 | 16.11-00245 | 1 | Main Bearing - Front - .020 U. S. |
| 19 | 16.11-00106 | 4 | Main Bearing - All except Front - Std. (includes Upper & Lower Rear, Center & 2 intermediate) |
| 19 | 16.11-00239 | 1 | Main Bearing - All except Front - .001 U. S. |
| 19 | 16.11-00240 | 1 | Main Bearing - All except Front - .002 U. S. |
| 19 | 16.11-00241 | 1 | Main Bearing - All except Front - .010 U. S. |
| 19 | 16.11-00242 | 1 | Main Bearing - All except Front - .020 U. S. |
| 20 | 16.11-00246 | 10 | Main Bearing Cap Bolt 7/16" -14 x 2-27/32" Used before Std. Rot. serial No. 823321 except 823298, 823299, 823302, 823303, 823312, 823315, 823316, 823318, and before Opp. Rot. serial No. 823343 except 823326, 823327, 823328, 823332, 823334, 823341, including 823360 and 823367. |
| 20 | 16.11-00054 | 10 | Main Bearing Cap Bolt, Used after Std. Rot. serial No. 823320 including above exceptions and Opp. Rot. serial No. 823342 including above exceptions except 823360 and 823367. |



| Code No. | Part No. | No. Req'd. | Name |
|----------|----------|------------|------|
|----------|----------|------------|------|

PISTONS AND RINGS

| | | | |
|---|-------------|---|--|
| 1 | 16.11-00214 | 8 | Piston & Pin Assembly - Standard |
| 1 | 16.11-00215 | 8 | Piston & Pin Assembly - .001 O. S. |
| 1 | 16.11-00216 | 8 | Piston & Pin Assembly - .020 O. S. |
| 1 | 16.11-00217 | 8 | Piston & Pin Assembly - .030 O. S. |
| 1 | 16.11-00218 | 8 | Piston & Pin Assembly - .040 O. S. |
| 2 | 16.11-00034 | 1 | Piston Rings - Complete Set - Standard |
| 2 | 16.11-00035 | 1 | Piston Rings - Complete Set - .020 O. S. |
| 2 | 16.11-00036 | 1 | Piston Rings - Complete Set - .030 O. S. |

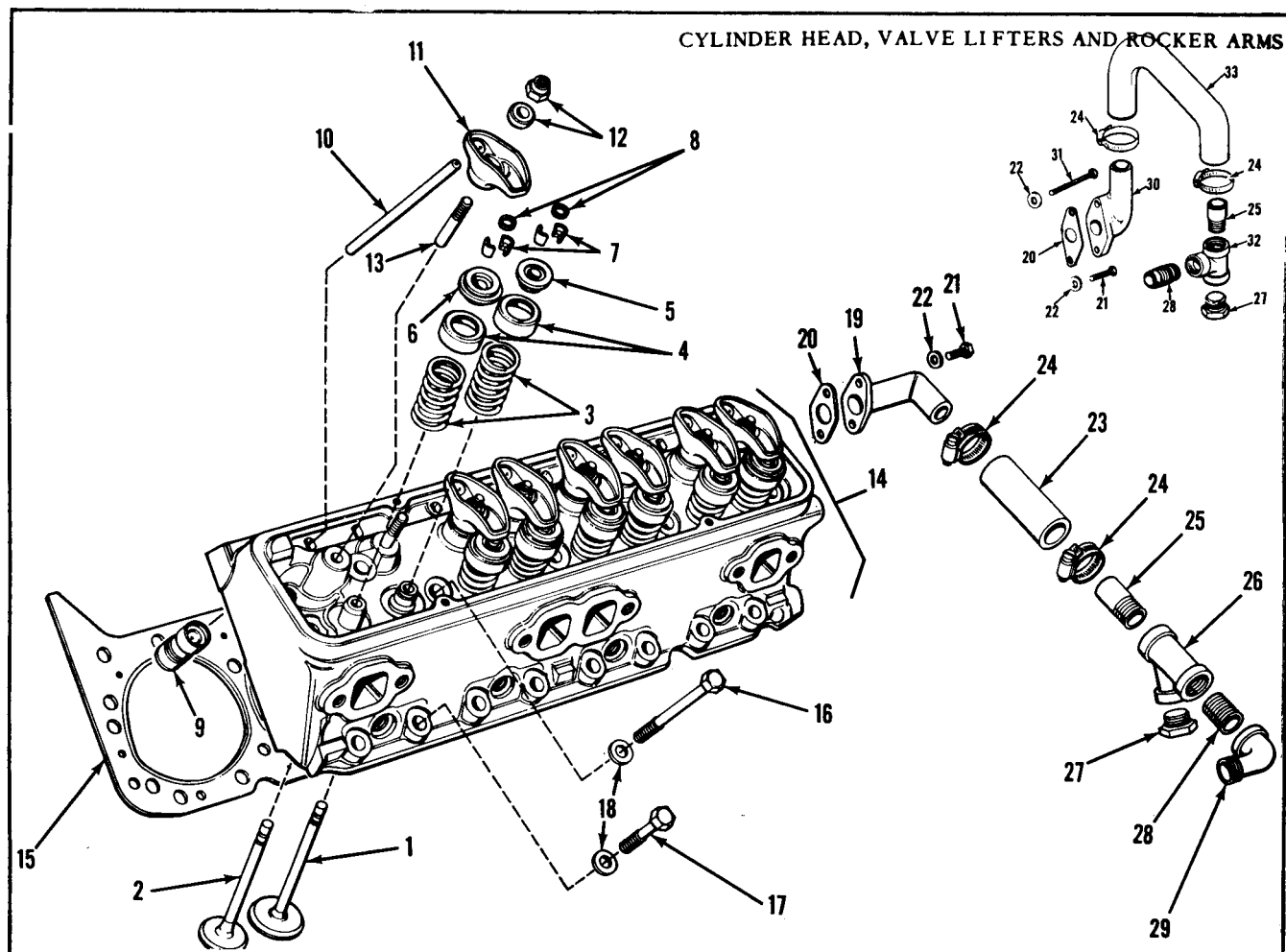
NOTE: PISTON INSTALLATION

Left Hand Rotation - If necessary to install complete set of replacement pistons install with notches toward flywheel. If replacing less than complete set of pistons replace as originally installed.

Right Hand Rotation - Install replacement pistons with notches toward timing gears.

CONNECTING RODS

| | | | |
|-----|-------------|----|---|
| 3-6 | | 8 | Connecting Rod Assembly (*3703525) (does not include bearings) Used before Std. Rot. serial No. 823321 except 823298, 823299, 823302, 823303, 823312, 823315, 823316, 823318, and before Opp. Rot. serial No. 823344 except 823326, 823327, 823328, 823332, 823334, 823341, 823343 including 823360 and 823367. |
| 3-6 | 16.11-00061 | 8 | Connecting Rod Assembly (does not include bearings) Used after Std. Rot. serial No. 823320 including above exceptions and after Opp. Rot. serial No. 823345 including above exceptions except 823360 and 823367. |
| 5 | 16.11-00123 | 16 | Connecting Rod Bolt |
| 6 | 16.11-00050 | 16 | Connecting Rod Nut |
| 7 | 16.11-00124 | 8 | Connecting Rod Bearings - Standard |
| | 16.11-00125 | 8 | Connecting Rod Bearings - .001 U. S. |
| | 16.11-00223 | 8 | Connecting Rod Bearings - .002 U. S. |
| | 16.11-00224 | 8 | Connecting Rod Bearings - .010 U. S. |
| | 16.11-00225 | 8 | Connecting Rod Bearings - .020 U. S. |



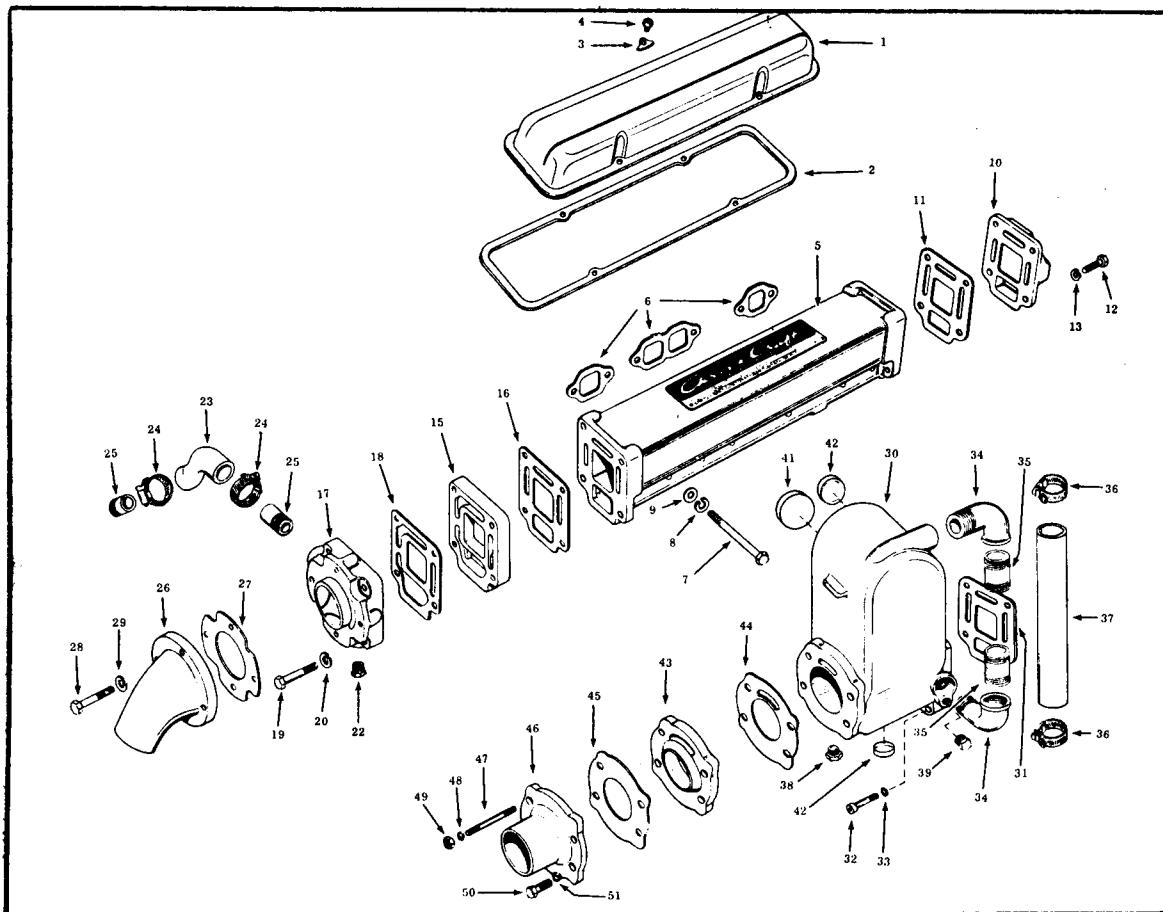
VALVES

| Code No. | Part No. | No. Req'd. | Name |
|----------|-------------|------------|--|
| 1 | 16.11-00148 | 8 | Intake Valve - Standard |
| 1 | | 8 | Intake Valve - .003 O. S. Stem (*3739242) |
| 1 | | 8 | Intake Valve - .015 O. S. Stem (*3739244) |
| 1 | | 8 | Intake Valve - .030 O. S. Stem (*3739246) |
| 2 | 16.11-00255 | 8 | Exhaust Valve - Heavy Duty |
| 2 | | 8 | Exhaust Valve - .003 O. S. Stem (*3748242) |
| 2 | | 8 | Exhaust Valve - .015 O. S. Stem (*3748244) |
| 2 | | 8 | Exhaust Valve - .030 O. S. Stem (*3748245) |
| 3 | 16.11-00272 | 16 | Valve Spring and Damper (When repairing engines not equipped with valve spring dampers, use dampers only if a complete set of valve springs is being installed. Discard dampers, if less than a complete set of valve springs is being installed.) |
| 4 | 16.11-00153 | 16 | Valve Stem Oil Shield |
| 5 | 16.11-00273 | 8 | Intake Valve Spring Cap |
| 6 | 16.11-00041 | 8 | Exhaust Valve Rotator & Cap Assembly |
| 7 | 16.11-00151 | 32 | Valve Stem Key |
| 8 | 16.11-00152 | 16 | Valve Stem Oil Seal |

| Code No. | Part No. | No. Req'd. | Name |
|-----------------------------|-------------|------------|--|
| VALVE LIFTERS & ROCKER ARMS | | | |
| 9 | 16.11-00020 | 16 | Valve Lifter Assembly - Mechanical Note: It is very important that special camshaft lubricant be applied liberally to prevent damaging camshaft lobes, when new camshaft or valve lifters are installed. This lubricant can be ordered from Chris-Craft using number 56.00-20630 |
| 10 | 16.11-00038 | 16 | Push Rod |
| 11 | 16.11-00014 | 16 | Valve Rocker Arm |
| 12 | 16.11-00043 | 2 | Valve Rocker Arm Ball and Nut Unit (8 units per pkg.) |
| 13 | 16.11-00227 | 16 | Rocker Arm Stud 3/8" -24 x 2-1/2" - .003" Oversize |
| 13 | 16.11-00228 | 16 | Rocker Arm Stud 3/8" -24 x 2-1/2" - .013" Oversize |
| CYLINDER HEAD | | | |
| 14 | 16.95-07760 | 2 | Cylinder Head Assembly - Complete with Valves - Port & Stbd. (Water holes Machined in both ends of head to allow for use on either port or stbd. bank.) |
| 14 | 16.11-00040 | 2 | Cylinder Head - with Rocker Arm Studs Only Note: When installing new cylinder heads on engines before serial number 807457 (also 807490, 807497, 807524, 807525, 807526, 807527) it will be necessary to use, for each head, one 16.11-00008 valve cover, one 16.11-00007 valve cover gasket and two 16.11-00022 cylinder head bolts. |
| 15 | 16.50-05958 | 2 | Cylinder Head Gasket |
| 16 | 16.11-00010 | 14 | Cylinder Head Bolt - Long (Quantity 18 required with early cylinder heads) |
| | 16.11-00022 | 4 | Cylinder Head Bolt - Medium (none used with early cylinder heads) |
| 17 | 16.11-00003 | 16 | Cylinder Head Bolt - Short |
| 18 | 16.41-00008 | 34 | Cylinder Head Plain Washer 29/64" x 3/4" x 1/16" |
| 19 | 16.22-05986 | 1 | Cylinder Head Water Outlet Fitting - Port (before 841392) |
| 30 | 16.22-06686 | 1 | Cylinder Head Water Outlet Fitting - Stbd. (2 used after 841391 P&S) |
| 20 | 16.50-06008 | 2 | Water Outlet Fitting Gasket |
| 21 | 16.30-00002 | 3 | Capscrew 1/4" -20 x 5/8" (2 used after 841391) |
| 31 | 16.30-00018 | 1 | Capscrew 1/4" -20 x 1-5/8" (2 used after 841391) |
| 22 | 16.41-10000 | 4 | Flat Washer 1/4" x 1/2" x .050" |
| 23 | 16.54-10004 | 1pc | Hose - 3/4" I. D. 3 ply x 3-1/2" long-Port (before 841392) |
| 24 | 16.55-37124 | 4 | Hose Clamp |
| 25 | 16.58-16526 | 2 | Hose Nipple 1/2" x 1-1/2" |
| 26 | 16.58-10210 | 1 | Pipe "Y" -1/2" (Port) (before 841392) |
| 27 | 16.58-10163 | 2 | Pipe Plug 1/2" |

Note: Before engine serial No. 822573, also 821951 and 821952 the stbd. cylinder head water outlet fittings and connections are the same as listed for the port cylinder head.

| Code No. | Part No. | No. Req'd | Name |
|------------------------|-------------|-----------|---|
| CYLINDER HEAD (Cont'd) | | | |
| 28 | 26.41-00004 | 2 | Close Nipple - 1/2" |
| 29 | 16.58-10042 | 1 | Street Elbow 1/2" - 90° (In Exhaust Manifold Front Cover) Port (before 841392) |
| 32 | 16.58-10194 | 1 | Pipe Tee 1/2" x 1/2" x 1/2" (In Exhaust Manifold Front Cover) Stbd. (2 used after 841392 P&S) |
| 33 | 16.54-06700 | 1 | Water Hose Moulded (From water outlet fitting to tee - Stbd.) (2 used after 841392 P&S) |



VALVE COVER

Following used before Ser. No. 807457 (also 807490, 807497, 807524, 807525, 807526, & 807527)

| | | |
|---|-------------|---|
| 1 | | 2 |
| 2 | 16.11-00100 | 2 |

Valve Cover (*3728443)

Valve Cover Gasket

Following used after Ser. No. 807456 (except 807490, 807497, 807524, 807525, 807526, & 807527)

| | | |
|---|-------------|---|
| 1 | 16.11-00297 | 2 |
| 2 | 16.50-00100 | 2 |

Valve Cover

Valve Cover Gasket

Following used all engines

| | | |
|---|-------------|---|
| 3 | 16.11-00259 | 8 |
| 4 | 03.11-01131 | 8 |

Valve Cover Reinforcement

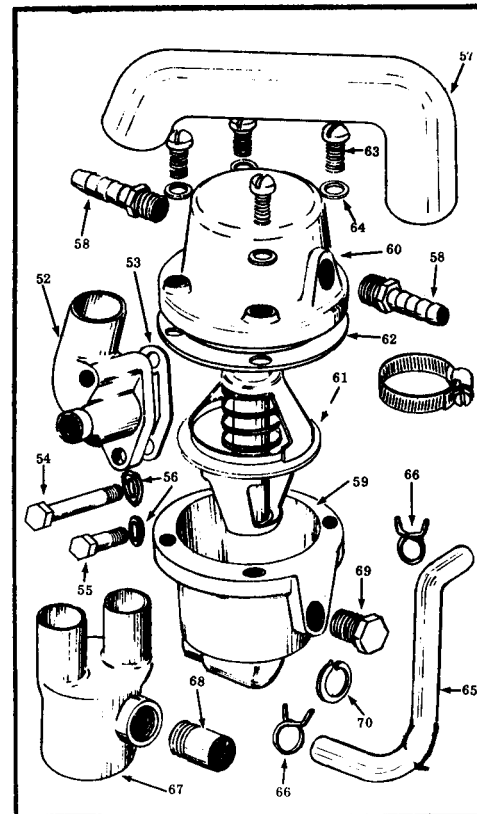
Valve Cover Screw 1/4" - 20 x 1/2" round head.

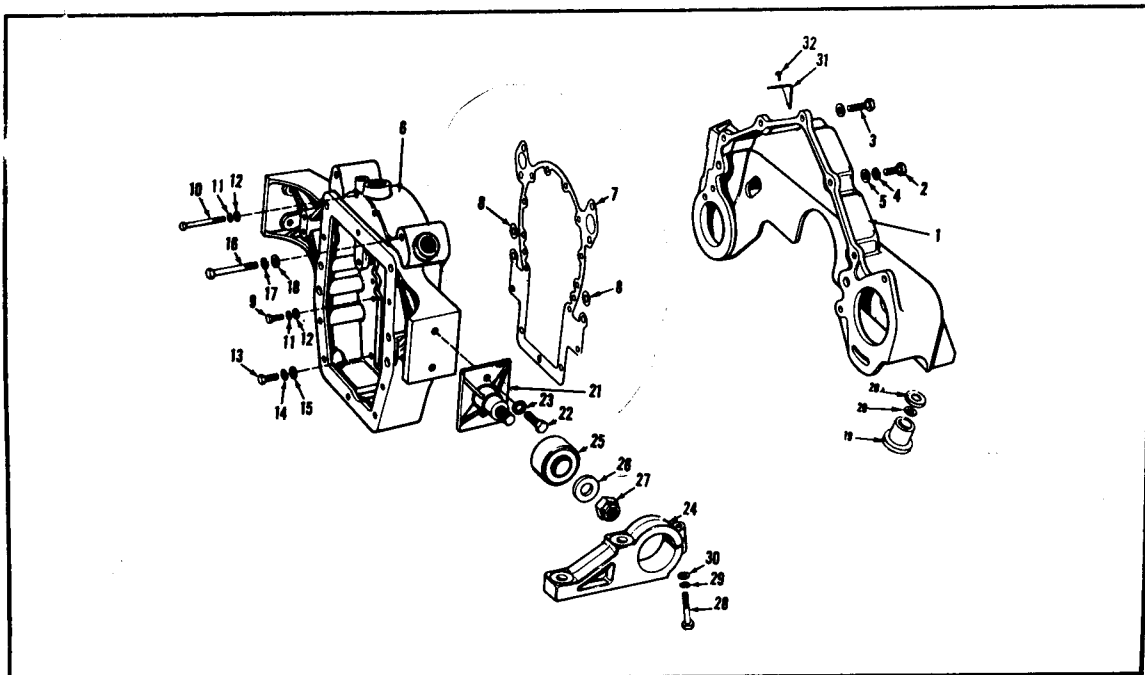
| Code No. | Part No. | No. Req'd | Name |
|--|--------------|-----------|--|
| EXHAUST MANIFOLD | | | |
| 5 | 16.20-07686 | 2 | Exhaust Manifold |
| 6 | 16.50-05748 | 2 | Exhaust Manifold Gasket Set |
| Note: The set includes Exhaust Manifold-to-block gaskets only. | | | |
| 7 | 16.30-00172 | 12 | Capscrew 3/8" -16" x 4" |
| 8 | 16.42-00004 | 12 | Lockwashers 3/8" |
| 9 | 16.41-00006 | 12 | Flat Washer 25/64" x 11/16" x 1/16" |
| | 16.20-07480 | 1 | Exhaust Manifold Front Cover - Port |
| 10 | *16.20-07482 | 1 | Exhaust Manifold Front Cover - Stbd. |
| *If engine equipped with water cooled generator, stbd. front cover must be drilled and tapped 1/8"-27 for generator outlet tube. | | | |
| 11 | 16.50-05944 | 2 | End Cover Gasket |
| 12 | 16.30-00126 | 8 | Capscrew 3/8" -16 x 1-1/8" |
| 13 | 16.42-00004 | 8 | Lockwasher 3/8" |
| EXHAUST - WITHOUT RISER | | | |
| | 16.20-07062 | 1 | Companion Flange-Port (Manifold to Exhaust Elbow Adapter) |
| 15 | 16.20-07064 | 1 | Companion Flange-Stbd. (Manifold to Exhaust Elbow Adapter) |
| 16 | 16.50-05944 | 2 | End Cover Gasket |
| | 16.20-07464 | 1 | Exhaust Elbow Adapter - Port |
| 17 | 16.20-07466 | 1 | Exhaust Elbow Adapter - Stbd. |
| 18 | 16.50-06022 | 2 | Exhaust Elbow Adapter Gasket |
| 19 | 16.30-00148 | 8 | Capscrew 3/8" -16 x 2-1/4" (Adapter thru Companion Flange into Manifold) |
| 20 | 16.42-00004 | 8 | Lockwasher 3/8" |
| 22 | 16.58-10155 | 2 | Drain Plug 1/4" (in Adapter) |
| 23 | 16.54-06062 | 2 | Moulded Hose (Adapter to Rear Cover) |
| 24 | 24.00-00016 | 4 | Hose Clamp |
| 25 | 16.58-16526 | 4 | Hose Nipple 1/2" |
| 26 | 04.31-68933 | 2 | Exhaust Elbow, Adjustable, for 2-1/2" Hose Connection |
| Note: It will be necessary to add four holes, located so that the exhaust elbow will be positioned at the correct angle. | | | |
| 27 | 16.50-07681 | 2 | Exhaust Elbow Gasket |
| | 04.31-75122 | 2 | Exhaust Pipe Fitting - Straight (For 2-1/2" I. D. Hose) |
| | 16.50-07681 | 2 | Exhaust Pipe Fitting Gasket |
| 28 | 16.30-00128 | 8 | Capscrew 3/8" -16 x 1-1/4" |
| 29 | 16.42-00004 | 8 | Lockwasher 3/8" |
| | 16.20-07066 | 2 | Manifold Exhaust Pipe Fitting - threaded for 2-1/2" pipe |
| | 16.30-00148 | 8 | Capscrew 3/8" -16 x 2-1/2" |
| | 16.42-00004 | 8 | Lockwasher 3/8" |
| EXHAUST - WITH RISER | | | |
| | 55.00-00040 | 1 | Exhaust Riser Kit - Complete |
| | 16.20-07522 | 1 | Exhaust Riser - Port |
| 30 | 16.20-07523 | 1 | Exhaust Riser - Stbd. |
| 31 | 16.50-05944 | 2 | Gasket (Manifold to Riser) |
| 32 | 16.30-00449 | 4 | Capscrew 3/8" -16 x 2-1/4" Socket Head |
| 33 | 16.42-00004 | 4 | Lockwasher 3/8" |
| 34 | 16.58-10046 | 4 | Street Elbow 3/4" N. P. T. |
| 35 | 16.58-17120 | 4 | Hose Nipple 3/4" N. P. T. |
| 36 | 16.55-37124 | 4 | Hose Clamp |
| 37 | | 2 | Water Hose 1" I. D. 8" x 3 Ply. |
| 38 | 16.58-10155 | 4 | Pipe Plug 1/4" N. P. T. |
| 39 | 16.58-10151 | 2 | Pipe Plug 1/8" N. P. T. |
| | 16.58-10168 | 2 | Pipe Plug - Countersunk Head |

| Code No. | Part No. | No. Req'd | Name |
|--|-------------|-----------|---|
| EXHAUST - WITH RISERS (Cont'd) | | | |
| 41 | 16.74-10009 | 2 | Cup Plug |
| 42 | 16.74-10017 | 4 | Cup Plug |
| 43 | 16.20-07593 | 2 | Deflector |
| 44 | 16.50-07596 | 2 | Deflector Gasket |
| 26 | 04.31-68933 | 2 | Exhaust Elbow, Adjustable for 2-1/2" Hose Connection |
| Note: It will be necessary to add four holes, located so that the exhaust elbow will be positioned at the correct angle. | | | |
| 45 | 16.50-07597 | 2 | Gasket, Exhaust Elbow |
| 46 | 16.20-07605 | 2 | Exhaust Pipe Fitting - Straight (For 2-1/2" I. D. Hose) |
| 45 | 16.50-07597 | 2 | Gasket - Exhaust Fitting |
| 47 | 16.44-37595 | 4 | Stud 3/8" x 9-1/4" |
| 48 | 16.42-00004 | 4 | Lockwasher 3/8" |
| 49 | 16.36-00005 | 4 | Nut 3/8" -24 |
| 50 | 16.30-00136 | 4 | Capscrew 3/8" -16 x 1-3/4" |
| 51 | 16.42-00004 | 4 | Lockwasher 3/8" |
| 52 | 16.22-07607 | 2 | Water Outlet Fitting (Cylinder Head) |
| 53 | 16.50-06008 | 2 | Gasket (Outlet Fitting) |
| 54 | 16.30-00018 | 1 | Capscrew 1/4" -20 x 1-5/8" |
| 55 | 16.30-00004 | 2 | Capscrew 1/4" -20 x 5/8" |
| 56 | 16.41-10000 | 4 | Flatwasher 1/4" x 1/2" x .050 |
| 57 | 16.54-06700 | 1 | Molded Hose |
| 58 | 16.58-10178 | 4 | Barbed Nipple |
| 59 | 16.20-07622 | 1 | Base - Mixing Valve |
| 60 | 16.20-07621 | 1 | Housing - Mixing Valve |
| 61 | 16.99-07623 | 1 | Mixing Valve |
| 62 | 16.50-07624 | 1 | Gasket - Mixing Valve |
| 63 | 16.32-40001 | 4 | Machine Screw 1/4" -20 x 7/8" |
| 64 | 16.42-00001 | 4 | Lockwasher 1/4" |
| | 16.70-07625 | 1 | Bracket (Mixing Valve) |
| 69 | 16.30-00058 | 4 | Capscrew 5/16" -18 x 1/2" |
| 70 | 16.42-00002 | 4 | Lockwasher 5/16" |
| 65 | 16.54-10033 | 2 | Water Hose 5/16" I. D. x 7-1/2" 2 Ply |
| 66 | | 4 | Hose Clamp |
| 67 | 16.22-07610 | 1 | Sea Water Inlet Fitting |
| 68 | 16.58-17118 | 2 | Hose Nipple 3/8" N. P. T. |

NOTE: Two different "mixing valves" have been used on "283" engines equipped with risers. Latest Production mixing valve is identified by plain casting as viewed from the front, while Early Production Valve has a cup plug and pipe plug installed in front face of casting. Replacement parts from above list should be used to service Present Production mixing valve. Use parts listed below for servicing Early Production valve.

| | | |
|-------------|---|-------------------------|
| 48.99-13127 | 1 | Mixing Valve |
| 16.50-07614 | 1 | Gasket - Mixing Valve |
| 16.72-15092 | 1 | By-Pass Seat |
| 16.74-10001 | 1 | Cup Plug 3/8" |
| 16.58-10155 | 1 | Pipe Plug 1/4" N. P. T. |





SUPPORT BRACKETS

FRONT COVER AND SUPPORT BRACKETS

| | | | |
|---|-------------|---|---|
| 1 | 16.21-05976 | 1 | Engine Front Cover and Support Bracket |
| 2 | 16.30-00126 | 6 | Capscrew 3/8"-16 x 1-1/8" (only 5 used on engines equipped with alternator) |
| 3 | 16.30-00132 | 1 | Capscrew 3/8"-16 x 1-1/2" |
| 4 | 16.42-00004 | 7 | Lockwasher 3/8" |
| 5 | 16.41-00006 | 6 | Flat Washer 25/64" x 11/16" x 1/16" |

REAR COVER AND SUPPORT BRACKETS

| | | | |
|----|-------------|----|--|
| 6 | 16.20-05950 | 1 | Engine Rear Cover and Support Bracket (Iron at 822158) |
| 7 | 16.50-06028 | 1 | Engine Rear Cover Gasket - Large |
| 8 | 16.50-06050 | 2 | Engine Rear Cover Gasket - Small |
| 9 | 16.30-00006 | 8 | Capscrew 1/4" -20 x 7/8" |
| 10 | 16.30-00044 | 2 | Capscrew 1/4" -20 x 3-1/4" |
| 11 | 16.42-00001 | 10 | Lockwasher 1/4" |
| 12 | | 2 | Flatwasher 1/4" |
| 13 | 16.30-00066 | 2 | Capscrew 5/16" -18 x 1" |
| 14 | 16.42-00002 | 2 | Lockwasher 5/16" |
| 15 | | 1 | Flatwasher 5/16" |
| 16 | 16.30-00164 | 2 | Capscrew 3/8" -16 x 3-1/2" |
| 17 | 16.42-00004 | 2 | Lockwasher 3/8" |
| 18 | | 1 | Flatwasher 3/8" |

ENGINE RUBBER MOUNTS

FRONT MOUNT

| | | | |
|-----|-------------|---|-----------------------------|
| 19 | 16.93-07768 | 2 | Engine Rubber Mount - Front |
| 20 | 16.41-00022 | 2 | Washer |
| 20a | 16.49-00000 | 2 | Cup Washer |

REAR MOUNT

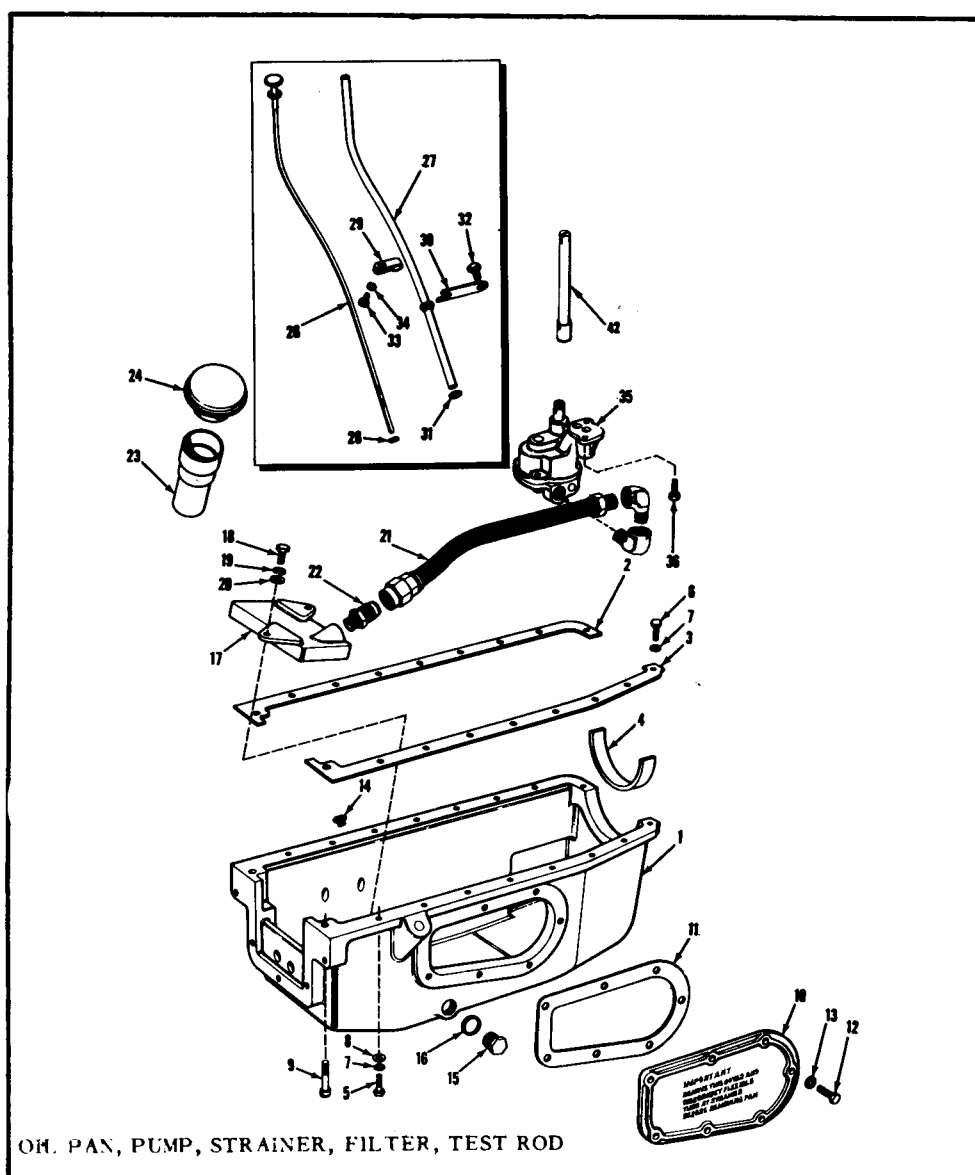
| | | | |
|----|-------------|---|-----------------------------|
| 21 | 16.20-05432 | 2 | Engine Mount Bracket - Rear |
| 22 | 16.30-00202 | 4 | Capscrew 7/16" -14 x 1-1/4" |
| 23 | 16.42-00007 | 4 | Lockwasher 7/16" |

ENGINE RUBBER MOUNTS (Cont'd)

| | | | |
|----|-------------|---|---|
| 24 | 16.21-06260 | 2 | Engine Mount Housing (To replace 5924 Mount Housing used before Ser. No. 804970, order 16.21-06260 Mount Housing with 04.31-68952 Engine Wedge) |
| 25 | 16.93-05808 | 2 | Engine Rubber Mount - Rear |
| 26 | 16.41-05840 | 2 | Engine Mount Retaining Washer |
| 27 | 16.39-00006 | 2 | Lock Nut 5/8"-11 |
| 28 | 16.30-00082 | 2 | Capscrew 5/16"-18 x 2" (5/16"-24 x 2-3/4" Capscrew with 5/16"-24 nuts used with 5924 Mount Housing. Before Ser. No. 804970) |
| 29 | 16.42-00003 | 2 | Lockwasher 5/16" |
| 30 | 16.41-00004 | 2 | Flat Washer 21/64" x 9/16" x 1/16" |

TIMING INDICATOR

| | | | |
|----|-------------|---|--|
| 31 | 16.70-05990 | 1 | Ignition Timing Indicator (Attaches to top of Front Cover) |
| 32 | 16.32-40000 | 2 | Screw for Timing Indicator |



| Code No. | Part No. | No. Req'd | Name |
|---|-------------|-----------|--|
| OIL PAN | | | |
| 1 | 16.21-05920 | 1 | Oil Pan |
| 2 | 16.50-05940 | 1 | Oil Pan Gasket - Port |
| 3 | 16.50-05942 | 1 | Oil Pan Gasket - Stbd. |
| 4 | 16.51-17639 | 1 | Oil Pan Gasket - Front |
| 5 | 16.30-00008 | 14 | Capscrew 1/4"-20 x 1" |
| 6 | 16.30-00006 | 2 | Capscrew 1/4"-20 x 7/8" (front holes) |
| 7 | 03.54-60004 | 16 | Lockwasher 1/4" |
| 8 | 16.41-00003 | 14 | Flat Washer 17/64" x 1/2" x 1/16" |
| 9 | 16.30-00531 | 2 | Capscrew 5/16"-18 x 1-3/4" Fillister Head (rear holes) |
| 10 | 16.21-06058 | 1 | Oil Pan Inspection Plate |
| 11 | 16.50-01610 | 1 | Inspection Plate Gasket |
| 12 | 16.30-00066 | 7 | Capscrew 5/16"-18 x 1" |
| 13 | 16.41-10001 | 7 | Washer 5/16" x 9/16" x .050" |
| 14 | 16.58-10155 | 1 | Drain Plug 1/4" |
| 15 | 16.58-10163 | 1 | Drain Plug 1/2" -Used before Ser. No. 807457 |
| | 16.72-16266 | 1 | Drain Plug - Used after Ser. No. 807456 |
| 16 | 16.50-00009 | 1 | Drain Plug Gasket - Used after Ser. No. 807456 |
| OIL STRAINER | | | |
| 17 | 16.22-02011 | 1 | Oil Strainer Body and Screen |
| 18 | 16.30-00062 | 2 | Capscrew 5/16" x 3/4" |
| 19 | 03.54-60005 | 2 | Lockwasher 5/16" |
| 20 | 16.41-00004 | 2 | Flat Washer 21/64" x 9/16" x 1/16" |
| 21 | 16.54-22309 | 1 | Oil Strainer to Pump Flexible Tube Assembly |
| 21A | 16.58-40005 | 2 | Elbow 3/8 M. P. T. x 3/8 F. P. T. |
| 22 | 16.59-10782 | 1 | Connector - Oil Strainer to Flex. Tube 5/8" T x 3/8" MPT |
| OIL FILLER | | | |
| 23 | 16.21-06030 | 1 | Oil Filler |
| 24 | 16.70-05136 | 1 | Oil Filler Cap |
| OIL TEST ROD | | | |
| Used before Engine Ser. No. 809490 | | | |
| | 16.95-00075 | 1 | Oil Test Rod and Tube Assembly Kit |
| Used after Engine Ser. No. 809489 | | | |
| 26 | 16.72-07747 | 1 | Oil Test Rod Assembly |
| 27 | 16.57-06492 | 1 | Oil Test Tube and Collar |
| 28 | 16.99-00021 | 2 | Felt Washer |
| 29 | 16.99-00008 | 1 | Test Rod Tube Clamp |
| 30 | 16.70-06496 | 1 | Test Rod Tube Bracket |
| 31 | 16.50-00013 | 1 | Copper Ring Gasket (McCord #504-B) |
| 32 | 16.30-00288 | 1 | Capscrew 1/2"-13 x 1" |
| 33 | 16.30-00120 | 1 | Capscrew 3/8"-16 x 3/4" |
| 34 | 16.42-00004 | 1 | Lockwasher 3/8" |
| OIL PUMP | | | |
| 35 | 16.11-00070 | 1 | Oil Pump Assembly |
| Used before "283" Eng. Ser. No. 840092 and "283L" Eng. Ser. No. 840241 | | | |
| 36 | 16.11-00016 | 2 | Attaching Bolt 7/16" x 14 x 2-3/16" |
| Used after "283" Eng. Serial No. 840091 and "283L" Eng. Serial No. 840240 | | | |
| 36 | 16.11-00274 | | Attaching Bolt 7/16" x 14 x 2" |

| Code No. | Part No. | No. Req'd | Name |
|---------------------|----------|-----------|------|
| OIL PUMP (CONT'D) | | | |

| | | | |
|----|--------------|---|--|
| 42 | 16, 11-00011 | 1 | Oil Pump Drive Shaft Assy. - Includes sleeve and pin |
|----|--------------|---|--|

OIL FILTER

| | | | |
|----|--------------|---|--------------------------------------|
| 37 | 16. 81-00006 | 1 | Oil Filter Element (AC #PF-141) |
| 38 | 16. 50-00085 | 1 | Oil Filter Gasket |
| 39 | 16. 11-00229 | 1 | Oil Filter Body with Bolt |
| 40 | 16. 11-00185 | 1 | Oil Filter Valve Assembly |
| 41 | | 2 | Capscrew 1/4" -20 x 1-1/4" (*180024) |

*Note: A remote mounted oil filter kit is available under Part No. 16. 95-00081.
Order Part No. 16. 81-06536 replacement element for this filter.

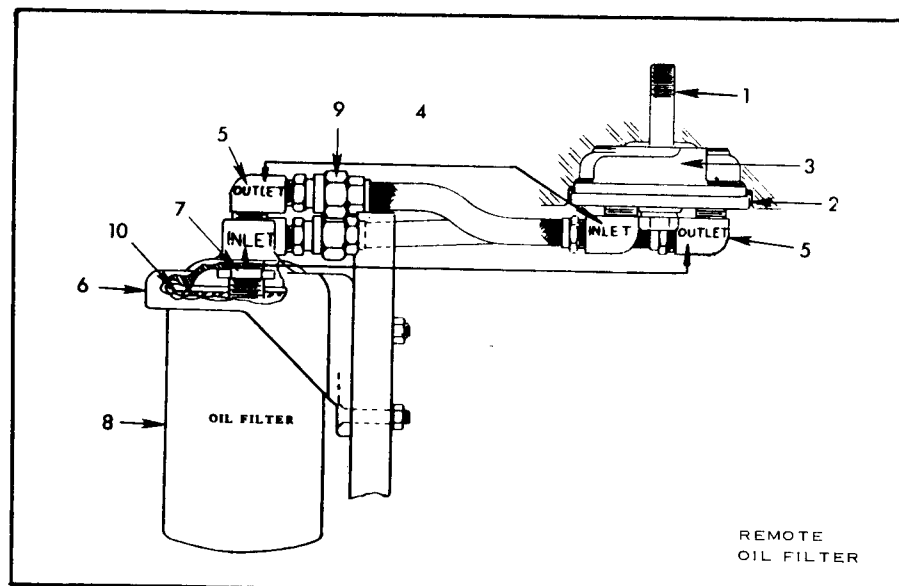
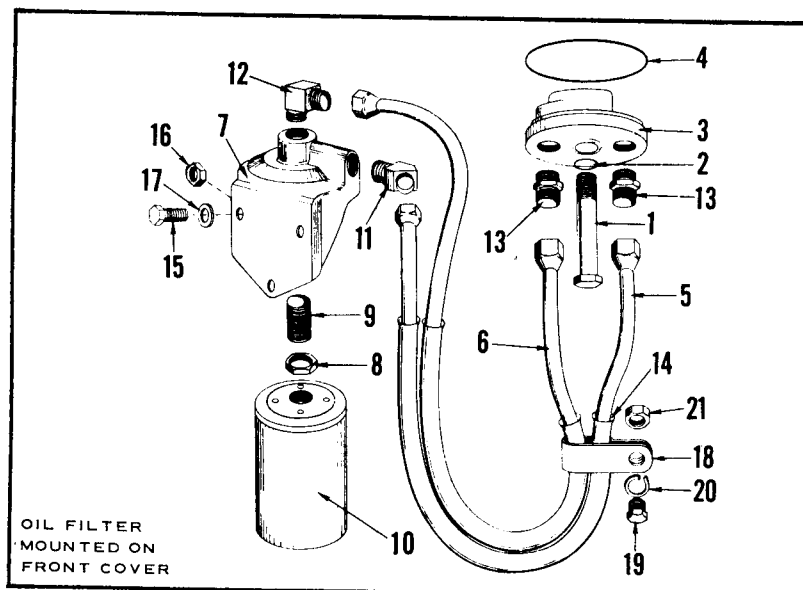
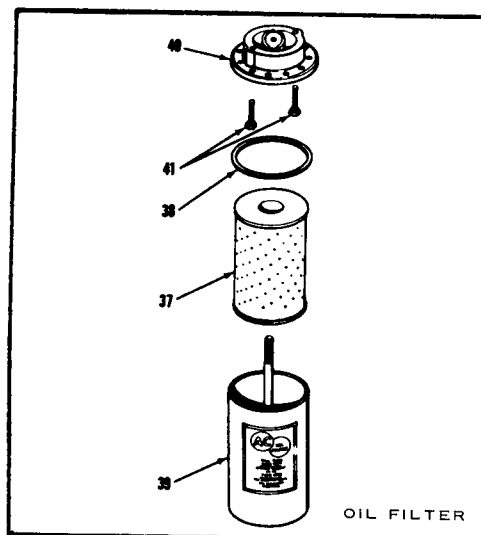
OIL FILTER (MOUNTED ON FRONT COVER)

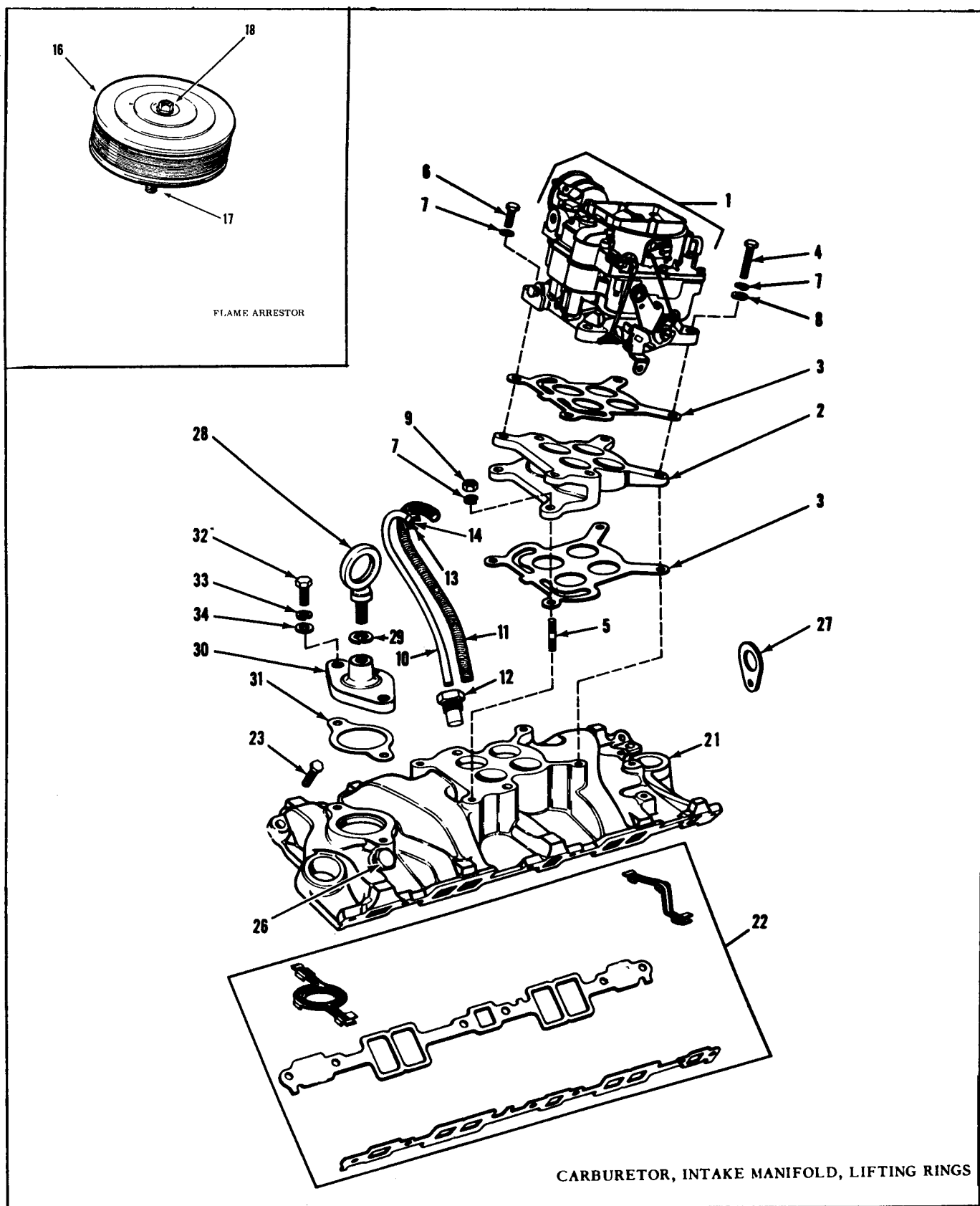
Std. beginning with Serial #838312 and also on the following engines: 835665, 838268, 838777, 838283, 838288, 838296, 838297, and 838301.

| | | | |
|----|--------------|---|---|
| 1 | 06. 30-87128 | 1 | Screw, Cap Hex Hd 1/2"-13 x 3-1/4 |
| 2 | 06. 50-00013 | 1 | Gasket, Copper Asbestos |
| 3 | 06. 20-06602 | 1 | Adapter, Oil Filter |
| 4 | 06. 51-00004 | 1 | Ring, "O" Oil Filter Body Trostel |
| 5 | 06. 57-57542 | 1 | Line, Oil - Oil Filter to Cylinder Block |
| 6 | 06. 57-57543 | 1 | Line, Oil - Cylinder Block to Oil Filter |
| 7 | 06. 20-07000 | 1 | Bracket, Oil Filter |
| 8 | 06. 72-06516 | 1 | Nut, Lock 3/4"-16 |
| 9 | 06. 12-07130 | 1 | Nipple, Oil Filter to Bracket |
| 10 | 06. 81-06536 | 1 | Oil Filter Element (Wix #PC-15, AC #PF-2, Purolator #PER-1) |
| 11 | 06. 59-17989 | 1 | Elbow, 45° 1/2" T - 3/8" MPT |
| 12 | 06. 59-10580 | 1 | Elbow, 90° 1/2" T - 3/8" MPT |
| 13 | 06. 59-10117 | 2 | Connector, 1/2" T - 3/8" MPT |
| 14 | 06. 57-97544 | 1 | Tubing |
| 15 | 06. 32-00097 | 3 | Screw, Machine Flat Hd 5/16"-24 x 1" |
| 16 | 06. 36-00003 | 3 | Nut, Hex 5/16"-24 |
| 17 | 06. 42-00002 | 3 | Washer, Lock 5/16" |
| 18 | 06. 99-00028 | 1 | Clamp, Multiple Tube |
| 19 | 06. 30-00120 | 1 | Screw, Cap Hex Hd 3/8"-16 - 3/4" |
| 20 | 06. 42-00004 | 1 | Washer, Lock 3/8" |
| 21 | 06. 36-00004 | 1 | Nut, Hex 3/8"-16 |

REMOTE OIL FILTER KIT (STRINGER OR BULKHEAD MOUNTED, PART #16. 95-00081)

| | | | |
|----|--------------|---|---|
| 1 | 16. 30-87128 | 1 | Capscrew 1/2" - 12 x 3-3/4" |
| 2 | 16. 50-00008 | 1 | Gasket |
| 3 | 16. 20-06602 | 1 | Adapter |
| 4 | 16. 54-20003 | 2 | Line, Oil 20" |
| 5 | 16. 58-10057 | 4 | Elbow |
| 6 | 16. 20-07000 | 1 | Bracket |
| 7 | 16. 72-06516 | 1 | Nut |
| 8 | 16. 81-06536 | 1 | Oil Filter Element (Wix #PC-15, AC #PF-2, Purolator #PER-1) |
| 9 | 16. 12-00017 | 2 | Nipple |
| 10 | 16. 51-00004 | 1 | "O" Ring |





| Code No. | Part No. | No. Req'd. | Name |
|-------------|-------------|---------------|------|
|-------------|-------------|---------------|------|

Following Parts Used Only on Model 283 Engines Equipped with CARTER 4 BARREL CARBURETOR

CARBURETOR

| | | | |
|----|-------------|---|---|
| 1 | 16.82-40004 | 1 | Carburetor - Carter WCFB 3205S |
| | 16.96-00052 | 2 | Carburetor Repair Kit - Carter 1937P |
| 2 | 16.20-06046 | 1 | Carburetor Wedge |
| 3 | 16.50-00097 | 2 | Carburetor-to-Wedge Gasket |
| 4 | 16.30-00078 | 2 | Capscrew 5/16"-18 x 1-3/4" (Forward Holes) |
| 5 | 16.44-05384 | 2 | Stud (Rear Lower Holes - Wedge to Manifold) |
| 6 | 16.30-00066 | 2 | Capscrew 5/16"-18 x 1" (Rear Upper Holes - Carburetor to Wedge) |
| 7 | 03.54-60005 | 6 | Lockwasher 5/16" |
| 8 | 16.41-00004 | 2 | Flat Washer 21/64" x 9/16" x 1/16" (Forward Holes) |
| 9 | 16.39-00009 | 2 | Nut 5/16"-24 |
| 10 | 16.57-56074 | 1 | Automatic Choke Control Heater Tube |
| 11 | 16.57-96066 | 1 | Automatic Choke Control Heater Tube Cover |
| 12 | 16.72-16060 | 1 | Automatic Choke Control Heater Tube Stove |
| 13 | 16.59-10705 | 1 | Nut 1/4" |
| 14 | 16.59-10725 | 1 | Sleeve 1/4" |

FLAME ARRESTOR

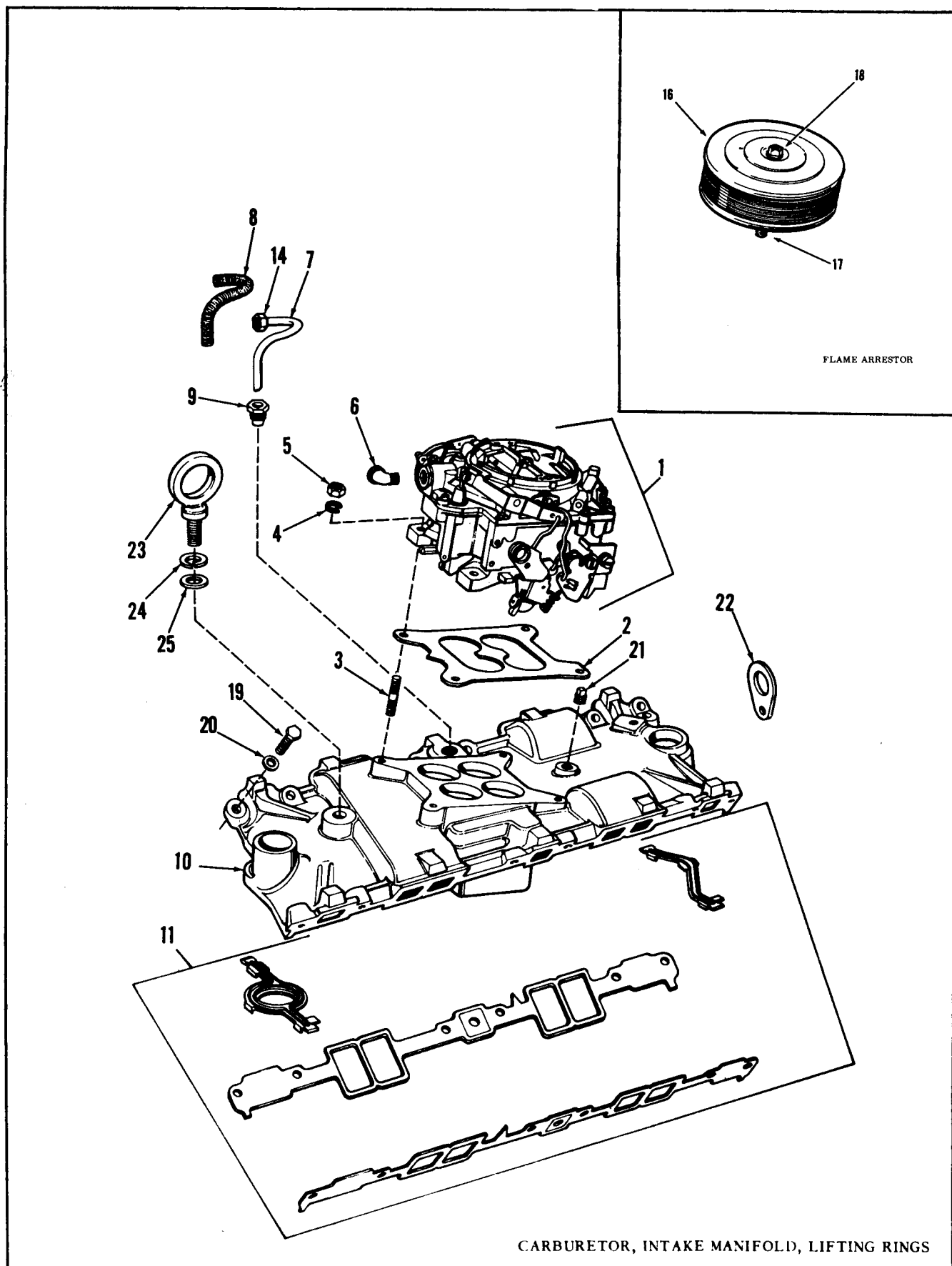
| | | | |
|-------------|-------------|---|---|
| 16,17 18 | 16.95-00092 | 1 | Flame arrestor assembly (With Stud - Nut) |
|-------------|-------------|---|---|

INTAKE MANIFOLD

| | | | |
|----|-------------|----|---------------------------------------|
| 21 | 16.11-00258 | 1 | Intake Manifold Assembly |
| 22 | 16.50-00071 | 1 | Intake Manifold Gasket Set |
| 23 | 16.30-00126 | 12 | Attaching Bolt 3/8"-16 x 1-1/8" |
| 26 | 16.58-10163 | 2 | Pipe Plug 1/2" |
| | 16.58-10160 | 1 | Pipe Plug 3/8" -18 (Countersunk Head) |

LIFTING RINGS

| | | | |
|----|-------------|---|---------------------------------|
| 27 | 16.70-06358 | 1 | Lifting Ring - Front |
| 28 | 16.71-01447 | 1 | Lifting Ring - Rear |
| 29 | 16.42-00008 | 1 | Lockwasher 1/2" |
| 30 | 16.24-05994 | 1 | Bracket - for Rear Lifting Ring |
| 31 | 16.50-00096 | 1 | Bracket Gasket |
| 32 | 16.30-00126 | 2 | Capscrew 3/8"-16 x 1-1/8" |
| 33 | 16.42-00004 | 2 | Lockwasher 3/8" |
| 34 | 16.41-00006 | 2 | Flat Washer 25/64" x 11/16" |



| Code No. | Part No. | No. Req'd. | Name |
|-------------|-------------|---------------|------|
|-------------|-------------|---------------|------|

Following Parts Used Only on Model 283 Engines with ROCHESTER 4 BARREL CARBURETOR.

CARBURETOR

| | | | |
|---|-------------|---|--|
| 1 | 16.82-40003 | 1 | Carburetor - Rochester 7015090 |
| | 16.96-00051 | 1 | Carburetor Repair Kit - Rochester 7016028 (Obtain parts and service from any United Motors Service Agency) |
| | 16.99-00025 | 2 | Viton Needle & Seat Assembly |
| | 16.99-00026 | 1 | Power Valve Assembly Kit |
| 2 | 16.50-07208 | 1 | Carburetor Gasket |
| 3 | 16.11-00177 | 4 | Carburetor Stud |
| 4 | 03.54-60005 | 4 | Lockwasher 5/16" |
| 5 | 16.39-00009 | 4 | Nut 5/16" - 24 |
| 6 | 16.59-06670 | 1 | Street Elbow 1/8" |
| 7 | 16.57-56152 | 1 | Automatic Choke Control Heater Tube |
| 8 | 16.57-96154 | 1 | Automatic Choke Control Heater Tube Cover |
| 9 | 16.72-16060 | 1 | Automatic Choke Control Heater Tube Stove |

FLAME ARRESTOR

| | | | |
|----|-------------|---|-------------------------|
| 16 | 16.95-00092 | 1 | Flame Arrestor Assembly |
| 17 | 16.44-00000 | 1 | Stud |
| 18 | 16.39-00010 | 1 | Nut |

INTAKE MANIFOLD

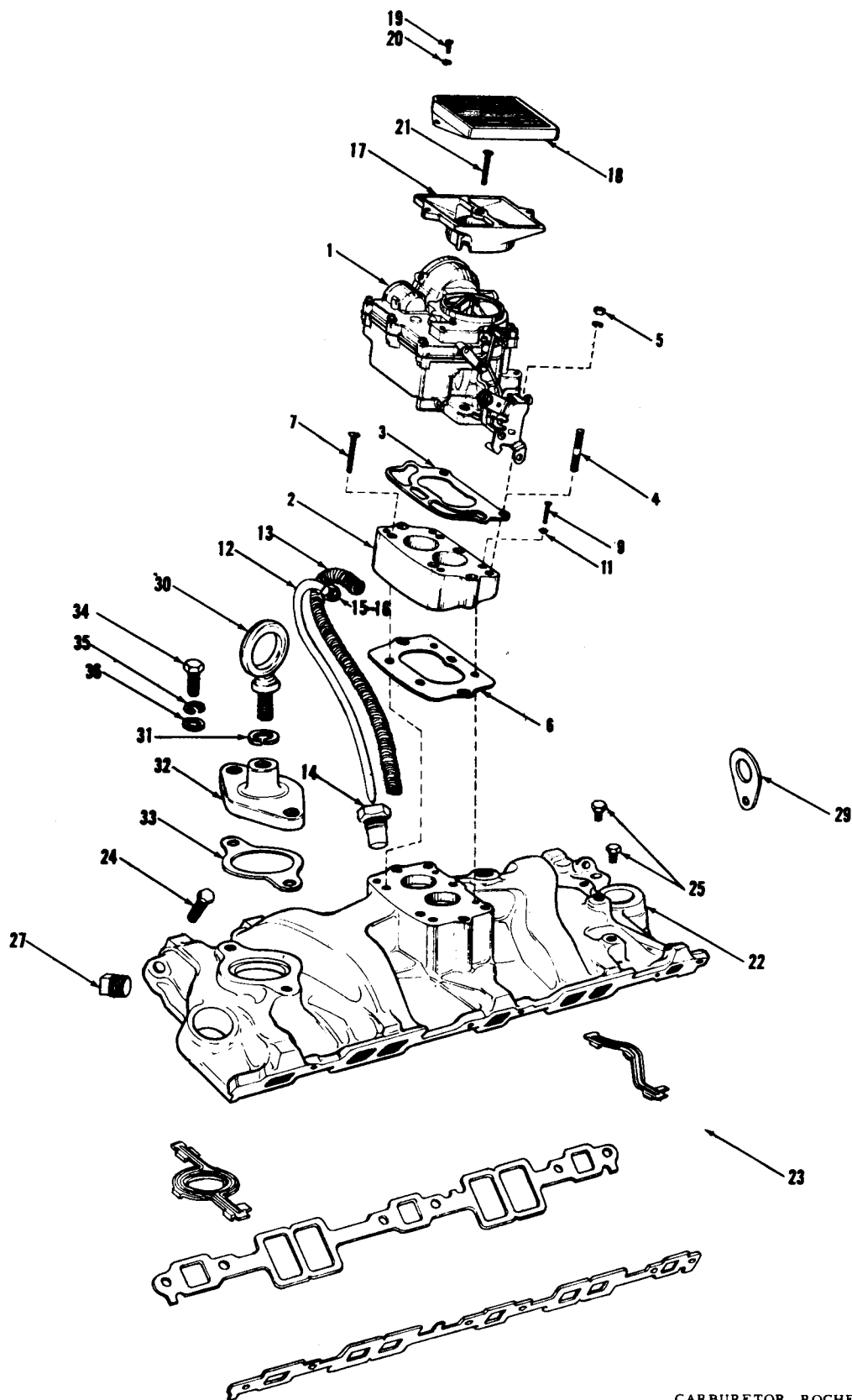
THE ROCHESTER LOW SILHOUETTE ALUMINUM INTAKE MANIFOLD USED ON SOME OF MODEL 283 CHRIS CRAFT ENGINES IS NO LONGER AVAILABLE.

THIS MANIFOLD MAY BE REPLACED BY ORDERING CAST IRON INTAKE MANIFOLD KIT, #16.96-08444 FROM YOUR LOCAL DEALER OR DISTRIBUTOR. THE KIT INCLUDES COMPLETE INSTRUCTIONS FOR INSTALLATION.

| | | | |
|----|-------------|----|-------------------------------------|
| 11 | 16.50-00112 | 1 | Intake Manifold Gasket Set |
| 19 | 16.30-00126 | 12 | Attaching Bolt 3/8" - 16 x 1-1/8" |
| 20 | 16.41-00006 | 12 | Flat Washer 25/64" x 11/16" x 1/16" |
| 21 | 16.74-10004 | 1 | Pipe Plug 3/4" |

LIFTING RINGS

| | | | |
|----|-------------|---|-----------------------------------|
| 22 | 16.70-06358 | 1 | Lifting Ring - Front |
| 23 | 16.71-01447 | 1 | Lifting Ring - Rear |
| 24 | 16.42-00008 | 1 | Lockwasher 1/2" |
| 25 | 16.41-00010 | 1 | Flat Washer 33/64" x 7/8" x 1/16" |



CARBURETOR, ROCHESTER, 2 BARREL
INTAKE MANIFOLD, LIFTING RINGS

| Code No. | Part No. | No. Req'd. | Name |
|----------|----------|------------|------|
|----------|----------|------------|------|

Following Parts Used Only on Model 283M Engines Equipped with ROCHESTER 2 BARREL CARBURETOR

CARBURETOR

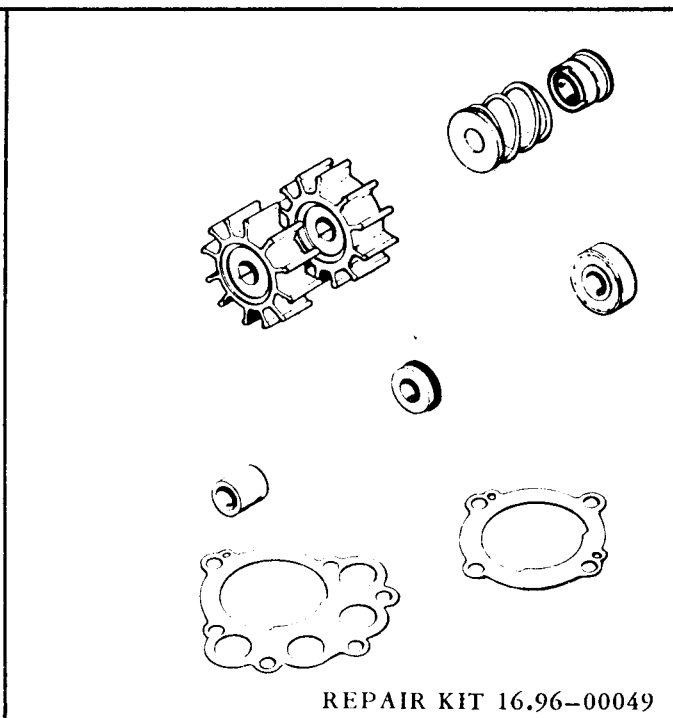
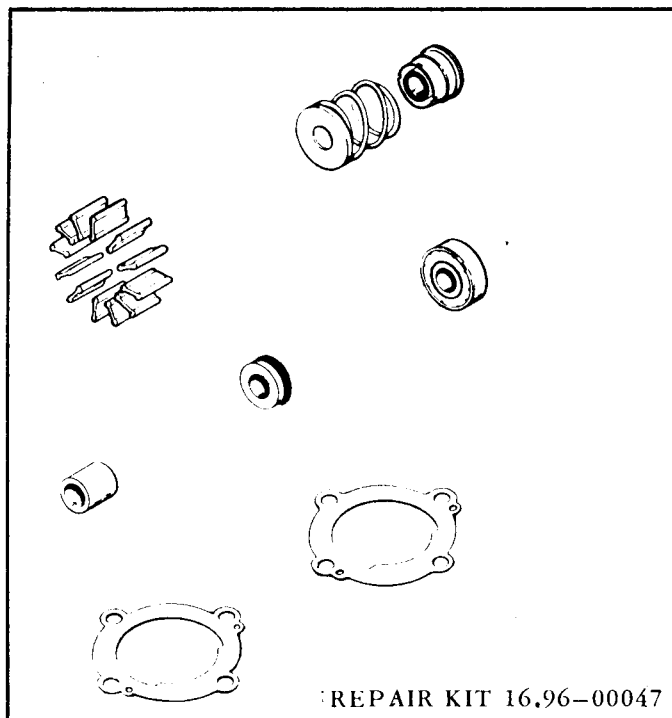
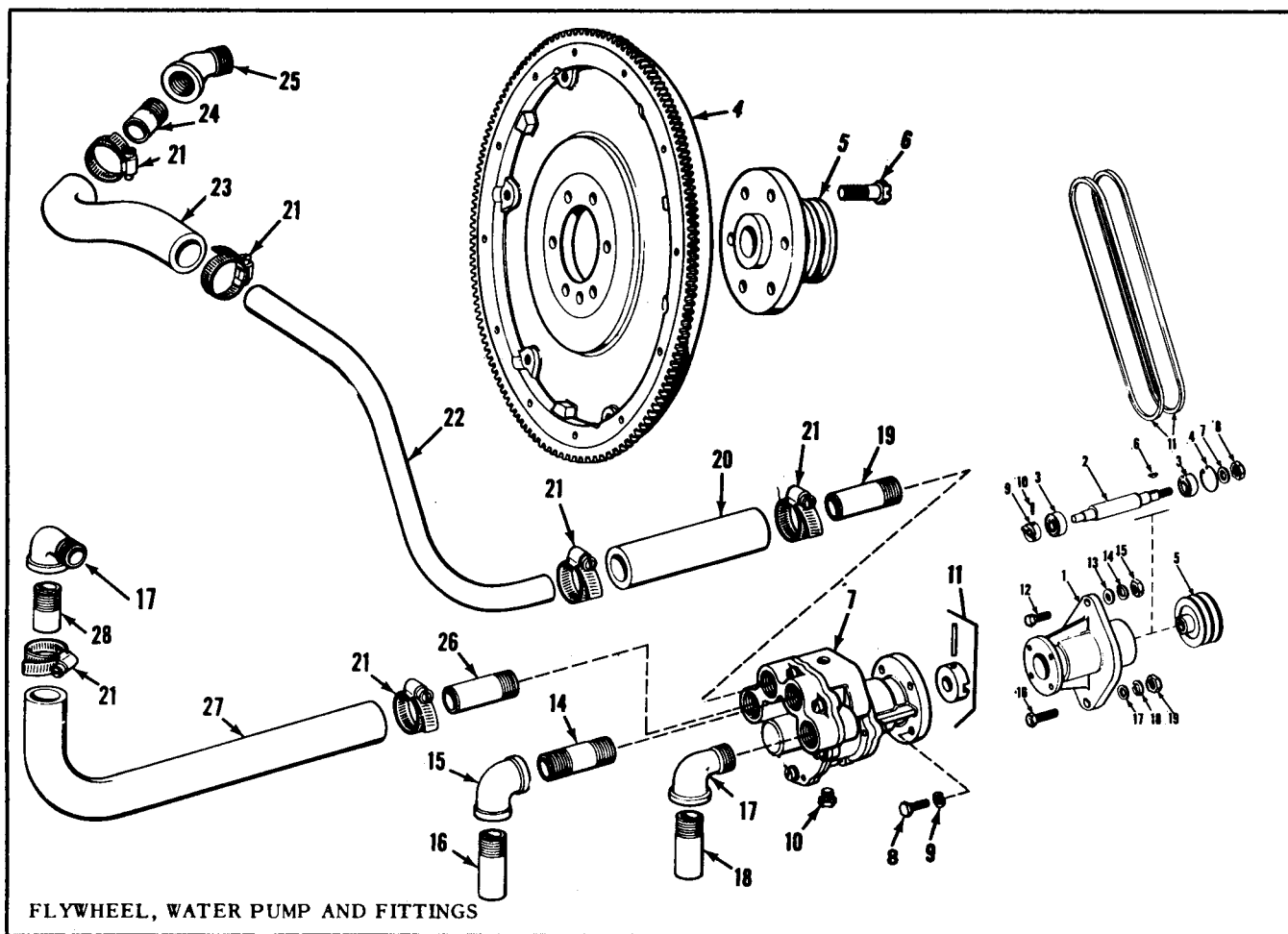
| | | | |
|----|-------------|---|---|
| 1 | 16.82-30000 | 1 | Carburetor - Rochester 7019082 (Obtain parts and service from any United Motors Service Agency) |
| 2 | 16.21-06568 | 1 | Carburetor Wedge |
| 3 | 16.50-06714 | 1 | Carburetor to Wedge Gasket |
| 4 | 16.44-06310 | 4 | Carburetor Stud |
| 5 | 16.39-00009 | 4 | Nut 5/16"-24 |
| 6 | 16.50-07114 | 1 | Gasket - Wedge to Intake Manifold |
| 7 | 16.32-00078 | 2 | Capscrew - Flat Head 1/4"-20 x 1-3/4" |
| 8 | 16.32-00070 | 1 | Capscrew - Flat Head 1/4"-20 x 1" |
| 9 | 16.32-00022 | 2 | Capscrew - Flat Head #10-24 x 1" |
| 10 | 16.43-00000 | 3 | Lockwasher 1/4" External Tooth |
| 11 | 16.43-00004 | 2 | Lockwasher #10 External Tooth |
| 12 | 16.57-56626 | 1 | Automatic Choke Control Heater Tube |
| 13 | 16.57-96154 | 1 | Automatic Choke Control Heater Tube Cover |
| 14 | 16.72-16060 | 1 | Automatic Choke Control Heater Tube Stove |
| 15 | 16.59-10705 | 1 | Nut 1/4" |
| 16 | 16.59-10725 | 1 | Sleeve 1/4" |
| 17 | 16.21-06570 | 1 | Flame Arrestor Body |
| 18 | 16.82-00009 | 1 | Flame Arrestor Assembly - Includes Arrestor Element - Zenith C-177-5 and Element Retainer-Zenith 178-10 |
| 19 | 16.32-10084 | 2 | Machine Screw #10-24 x 3/8" Fillister Head |
| 20 | 16.42-00000 | 2 | Lockwasher #10 |
| | 16.32-10062 | 1 | Machine Screw 1/4"-20 x 1-1/4" Flat Head (Flame Arrestor Retainer) |
| | 16.43-00000 | 1 | External Tooth Lockwasher 1/4" |

INTAKE MANIFOLD

| | | | |
|----|-------------|----|--|
| 22 | 16.20-00041 | 1 | Intake Manifold Assembly |
| 23 | 16.50-00071 | 1 | Intake Manifold Gasket Set |
| 24 | 16.30-00126 | 12 | Attaching Bolt 3/8"-16 x 1-1/8" |
| 25 | 16.30-86574 | 2 | Capscrew 5/16" - 18 x 1/2" with nylon insert |
| 27 | 16.58-10163 | 2 | Pipe Plug 1/2" |

LIFTING RINGS

| | | | |
|----|-------------|---|-------------------------------------|
| 29 | 16.70-06358 | 1 | Lifting Ring - Front |
| 30 | 16.71-01447 | 1 | Lifting Ring - Rear |
| 31 | 16.42-00008 | 1 | Lockwasher 1/2" |
| 32 | 16.24-05994 | 1 | Bracket - for Rear Lifting Ring |
| 33 | 16.50-00011 | 1 | Bracket Gasket |
| 34 | 16.30-00126 | 2 | Capscrew 3/8" -16 x 1-1/8" |
| 35 | 16.42-00004 | 2 | Lockwasher 3/8" |
| 36 | 16.41-00006 | 2 | Flat Washer 25/64" x 11/16" x 1/16" |



| Code No. | Part No. | No. Req'd | Name |
|-----------------|-------------|--------------|--|
| FLYWHEEL | | | |
| 4 | 16.11-06016 | 1 | Flywheel with Ring Gear - Std. Rot. (Stamped "L" formerly "S") |
| | 16.11-06114 | 1 | Flywheel with Ring Gear - Opp. Rot. (Stamped "R" formerly "O") |
| 5 | 16.20-06652 | 1 | Flywheel Pulley (Replaces 5926 Pulley and 6048 Pilot used before Engine Ser. No. 800650 and 6094 pulley used between 800650 and 816276 except 816277, 816279, 816280, 816281, 816285, 816287, 816287, 816292, 816294 and 816301) |
| 6 | 16.30-06024 | 6 | Flywheel Retaining Bolt. |

WATER PUMP DRIVE ASSEMBLY

Used with 40 amp. Alternator engines

| | | | |
|----|-------------|---|--------------------------------------|
| | 16.95-07352 | 1 | Water Pump Drive Assembly |
| 1 | 16.21-06484 | 1 | Water Pump Drive Housing |
| 2 | 16.72-06486 | 1 | Water Pump Drive Shaft |
| 3 | 16.90-00006 | 2 | Ball Bearing |
| 4 | 16.99-00016 | 1 | Snap Ring |
| 5 | 16.20-07350 | 1 | Water Pump Drive Pulley |
| 6 | 16.45-00011 | 1 | Woodruff Key - #6 |
| 7 | 16.41-00010 | 1 | Flat Washer 33/64" x 7/8" x 1/16" |
| 8 | 16.39-00007 | 1 | Locknut 1/2" - 20 (pulley retaining) |
| 9 | 16.72-06490 | 1 | Water Pump Drive Coupling |
| 10 | 16.47-06530 | 1 | Roll Pin (coupling) |
| 11 | 16.97-06500 | 2 | Water Pump Drive Belts |
| 12 | 16.30-00207 | 1 | Capscrew 7/16" - 20 x 1-1/2" |
| 13 | 16.41-00008 | 1 | Flat Washer 29/64" x 3/4" x 1/16" |
| 14 | 16.42-00006 | 1 | Lockwasher 7/16" |
| 15 | 16.36-00081 | 1 | Hex Nut 7/16" - 20 |
| 16 | 16.30-00301 | 1 | Capscrew 1/2" - 20 x 1-3/4" |
| 17 | 16.41-00015 | 1 | Flat Washer 33/64" x 1-1/8" x 5/32" |
| 18 | 16.42-00008 | 1 | Lockwasher 1/2" |
| 19 | 16.36-00009 | 1 | Hex Nut 1/2" |

| Code No. | Part No. | No. Req'd | Name |
|-----------------------------------|-------------|-----------|-------------------------------------|
| WATER PUMP - IMPELLER TYPE | | | |
| 7 | 16.80-10004 | 1 | Water Pump Assembly - Impeller Type |
| 8 | 16.10-00051 | 4 | Capscrew 1/4" - 20 x 3/4" |
| 9 | 03.54-60004 | 4 | Lockwasher 1/4" |
| 10 | 16.58-10151 | 2 | Drain Plug 1/8" |

WATER PUMP REPAIR PARTS

NOTE: When ordering water pump repair parts, identify the pump by the number stamped on the attaching flange of the pump. Commonly used parts are listed below - other parts are available upon request.

NUMBER STAMPED
ON ATTACHING
FLANGE OF PUMP



| L | L | M | M | N |
|---|---|---|---|---|
| 9 | 9 | 1 | 1 | 1 |
| 9 | 9 | 0 | 0 | 0 |
| 8 | 1 | 1 | 0 | 3 |
| 0 | 0 | 6 | 9 | 6 |
| | G | 0 | 5 | 0 |
| | | G | G | G |
| | 1 | 1 | 1 | 1 |
| 1 | | | | |
| | 1 | 1 | | |
| | | | 1 | 1 |
| 1 | | | | |
| 1 | 1 | 1 | 1 | 1 |
| | 1 | | | |
| | | 1 | | |
| | | | 1 | 1 |

| | |
|-------------|-------------------------|
| 16.50-90010 | Gasket Set |
| 16.50-90018 | Gasket Set |
| 16.80-90046 | Impeller Set (16 vanes) |
| 16.80-90047 | Impeller Set (2) |
| 16.80-90053 | Gear Set |
| 16.80-90052 | Seal & Seat Assembly |
| 16.96-00042 | Repair Kit |
| 16.96-00047 | Repair Kit |
| 16.96-00049 | Repair Kit |

All "sets" contain quantities for one pump. Repair Kits include impellers or vanes, partition gaskets, ball bearings, shaft bushing and seal & seat assembly.

NOTE: Engine Serial Number Groups listed below indicate original standard equipment water pumps. Since pumps are interchangeable it maybe found that a pump different than listed is installed.

Water Pump Stamped:Originally Standard on Engine Serial Numbers:

| | |
|-----------|-------------------------|
| L-9910-G | 800,001 through 804,234 |
| M-10160-G | 804,235 through 805,134 |
| L-9910-G | 805,135 through 808,374 |
| M-10095-G | 808,375 through 814,331 |
| N-10360-G | 814,332 through 818,852 |
| L-9980 | 818,853 through 839,066 |
| N-10360-G | 839,067 through----- |

WATER PUMP INLET FITTINGS

Following used from Port Inlet to Pump

| | | | |
|----|-------------|---|-------------------------|
| 14 | 16.58-10088 | 1 | Pipe Nipple 1/2" x 2" |
| 15 | 16.58-10042 | 1 | Street Elbow 1/2" x 90° |
| 16 | 16.58-10134 | 1 | Hose Nipple 1/2" x 2" |

Following used from Starboard Inlet to Pump

| | | | |
|----|-------------|---|-----------------------|
| 17 | 16.58-10042 | 1 | Elbow 1/2" x 90° |
| 18 | 16.58-10134 | 1 | Hose Nipple 1/2" x 2" |

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WORLD'S LARGEST BUILDER OF MOTOR BOATS

| Code No. | Part No. | No. Req'd | Name |
|----------|----------|-----------|------|
|----------|----------|-----------|------|

WATER PUMP OUTLET FITTINGS (Before Engine number 814978)

Following used from Pump Outlet to Port Exhaust Manifold Adapter

| | | | |
|----|-------------|-------|--|
| 19 | 16.58-10134 | 1 | Hose Nipple 1/2" x 2" |
| 20 | | 1 pc. | Hose - 3/4" I. D. 3 ply x 3-1/2" long |
| 21 | 24.00-00016 | 2 | Hose Clamps |
| 22 | 16.57-56656 | 1 | Tube (Copper) |
| 23 | 16.54-06106 | 1 | Hose, Moulded - Replaces elbow, nipple and short piece of hose, used before engine serial number 800665. |
| 21 | 24.00-00016 | 2 | Hose Clamps |
| 24 | 16.58-16526 | 1 | Hose Nipple 1/2" x 1-1/4" |
| 25 | 26.27-00004 | 1 | Street Elbow 1/2" - 45° |

Following used from Pump Outlet to Starboard Exhaust Manifold Adapter

| | | | |
|----|-------------|-------|--------------------------------------|
| 26 | 16.58-10134 | 1 | Hose Nipple 1/2" x 2" |
| 27 | | 1 pc. | Hose - 3/4" I. D. 3 ply 13-1/2" long |
| 21 | 24.00-00016 | 2 | Hose Clamps |
| 28 | 16.58-16526 | 1 | Hose Nipple 1/2" x 1-1/4" |
| 17 | 16.58-10042 | 1 | Street Elbow 1/2" - 90° |

WATER PUMP OUTLET FITTINGS

(After engine number 814977 and before 822573 except 821951 and 821952)

For use with water cooled generator

Water Pump Outlet to Port Exhaust Manifold Adapter (Std. Rot.)

| | | | |
|----|-------------|---|---------------------------------------|
| 19 | 16.58-10134 | 1 | Hose Nipple 1/2" x 2" |
| 20 | | 1 | Hose 3/4" I. D. 3 ply x 5" long |
| 21 | 24.00-00016 | 2 | Hose Clamps |
| 22 | 16.57-56656 | 1 | Tube (Copper) |
| 23 | 16.54-06106 | 1 | Hose, Moulded Water Tube to Adapter |
| 21 | 24.00-00016 | 2 | Hose Clamps |
| 24 | 16.58-16526 | 1 | Hose Nipple 1/2" x 1-1/4" (45° Elbow) |
| 25 | 26.27-00004 | 1 | Street Elbow 1/2" - 45° |

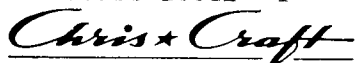
Water Pump Outlet to Stbd. Exhaust Manifold Adapter (Std. Rot.)

| | | | |
|----|-------------|---|-----------------------------|
| 26 | 16.58-10134 | 1 | Hose Nipple 1/2" x 2" |
| 27 | | 1 | Hose 3/4" I. D. 3 ply x 10" |
| 21 | 24.00-00016 | 2 | Hose Clamps |
| 28 | 16.58-16526 | 1 | Hose Nipple 1/2" x 1-1/4" |
| 25 | 26.27-00004 | 1 | Street Elbow 1/2" - 45° |
| 17 | 16.58-10042 | 1 | Street Elbow 1/2" - 90° |

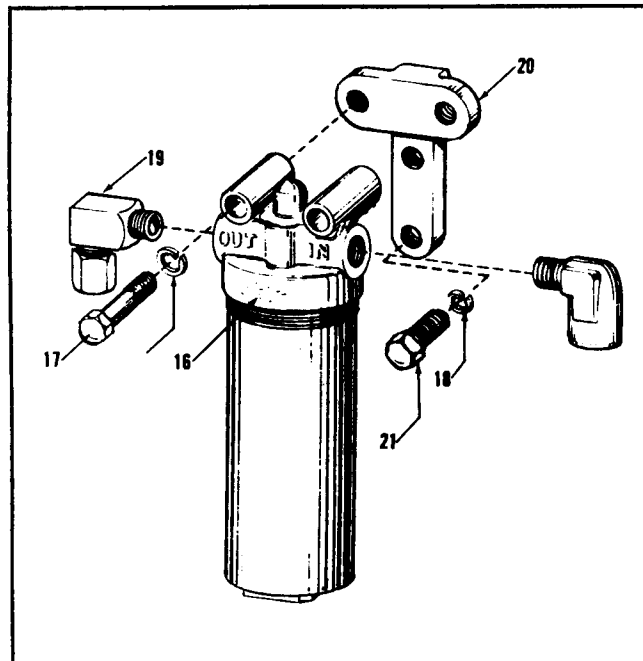
Water Pump Outlet to Port Exhaust Manifold Adapter (Opp. Rot.)

| | | | |
|----|-------------|---|-------------------------------------|
| 26 | 16.58-10134 | 1 | Hose Nipple 1/2" x 2" |
| | 16.54-06664 | 1 | Hose, Moulded |
| 24 | 24.00-00016 | 2 | Hose Clamps |
| | 16.57-56666 | 1 | Tube (Copper) |
| 23 | 16.54-06106 | 1 | Hose, Moulded Water Tube to Adapter |
| 21 | 24.00-00016 | 2 | Hose Clamps |
| 24 | 16.58-16526 | 1 | Hose Nipple 1/2" x 1-1/4" |
| 25 | 26.27-00004 | 1 | Street Elbow 1/2" x 45° |

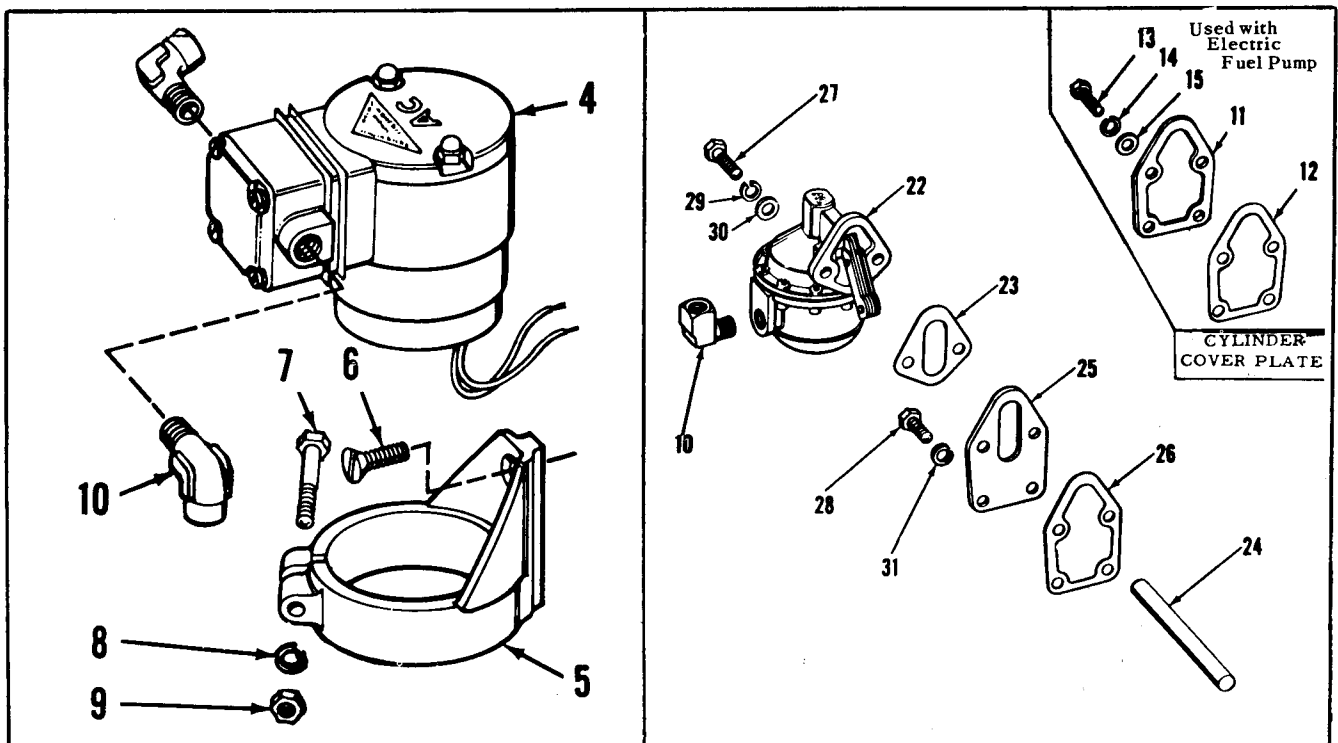
| Code No. | Part No. | No. Req'd | Name |
|---|-------------|-----------|---------------------------------------|
| WATER PUMP OUTLET FITTING (Cont'd) | | | |
| (After engine number 814977 and before 822573 except 821951 and 821952) | | | |
| For use with water cooled generator | | | |
| Water Pump Outlet to Stbd. Exhaust Manifold Adapter (Opp. Rot.) | | | |
| 19 | 16.58-10134 | 1 | Hose Nipple 1/2" x 2" |
| 20 | | 1 | Hose 3/4" I. D. 3 ply x 13" |
| 21 | 24.00-00016 | 2 | Hose Clamps |
| 24 | 16.58-16526 | 1 | Hose Nipple 1/2" x 1-1/4" |
| 17 | 16.58-10042 | 1 | Street Elbow 1/2" - 90° |
| WATER PUMP OUTLET FITTINGS | | | |
| After engine number 822572 also 821951, 821952) | | | |
| For use with water pump drive assembly & 40 amp. alternator | | | |
| Water Pump Outlet to Port Exhaust Manifold Adapter (Std. Rot.) | | | |
| 19 | 16.58-10134 | 1 | Hose Nipple 1/2" x 2" |
| 20 | | 1 | Hose 3/4" I. D. 3 ply x 11-3/8" Long |
| 21 | 24.00-00016 | 2 | Hose Clamps |
| 22 | 16.57-56656 | 1 | Tube (Copper) |
| 23 | 16.54-06106 | 1 | Hose, Moulded Water Tube to Adapter |
| 21 | 24.00-00016 | 2 | Hose Clamps |
| 24 | 16.58-16526 | 1 | Hose Nipple 1/2" x 1-1/4" (45° Elbow) |
| 25 | 26.27-00004 | 1 | Street Elbow 1/2" - 45° |
| Water Pump Outlet to Stbd. Exhaust Manifold Adapter (Std. Rot.) | | | |
| 19 | 16.58-10134 | 1 | Hose Nipple 1/2" x 2" |
| 20 | | 1 | Hose 3/4" I. D. 3 ply x 16-3/8" |
| 21 | 24.00-00016 | 2 | Hose Clamps |
| 24 | 16.58-16526 | 1 | Hose Nipple 1/2" x 1-1/4" |
| 25 | 26.27-00004 | 1 | Street Elbow 1/2" - 45° |
| 17 | 16.58-10042 | 1 | Street Elbow 1/2" - 90° |
| Water Pump Outlet to Port Exhaust Manifold Adapter (Opp. Rot.) | | | |
| 19 | 16.58-10134 | 1 | Hose Nipple 1/2" x 2" |
| 20 | | 1 | Hose 3/4" I. D. 3 ply x 7-1/2" |
| | 16.57-57382 | 1 | Tube |
| 21 | 24.00-00016 | 2 | Hose Clamps |
| | 16.54-06664 | 1 | Hose, Moulded |
| 21 | 24.00-00016 | 2 | Hose Clamps |
| 22 | 16.57-56666 | 1 | Tube (Copper) |
| 23 | 16.54-06106 | 1 | Tube (Water Tube to Adapter Hose) |
| 21 | 24.00-00016 | 2 | Hose Clamps |
| 24 | 16.58-16526 | 1 | Hose Nipple 1/2" x 1-1/4" |
| 25 | 26.27-00004 | 1 | Street Elbow 1/2" x 45° |
| Water Pump Outlet to Stbd. Exhaust Manifold Adapter (Opp. Rot.) | | | |
| 19 | 16.58-10134 | 1 | Hose Nipple 1/2" x 2" |
| 20 | | 1 | Hose 3/4" I. D. 3 ply x 20" |
| 21 | 24.00-00016 | 2 | Hose Clamps |
| 26 | 16.53-10131 | 1 | Hose Nipple 1/2" x 1-1/4" |
| 17 | 16.58-10042 | 1 | Street Elbow 1/2" - 90° |



WORLD'S LARGEST BUILDER OF MOTOR BOATS



FUEL FILTER AFTER 818098



ELECTRIC FUEL PUMP

MECHANICAL FUEL PUMP

| Code No. | Part No. | No. Req'd. | Name |
|----------|----------|------------|------|
|----------|----------|------------|------|

FUEL FILTER

Used after Serial Number 818098 Model "283" and used on all Model "283M"

NOTE: This large capacity fuel filter may be ordered as a complete kit with attaching parts and installation instructions for earlier engines under part No. 16.95-00085.

| | | | |
|----|-------------|---|---|
| 16 | 16.81-07731 | 1 | Fuel Filter Assembly |
| 17 | 16.30-00082 | 2 | Capscrew 5/16" - 18 x 2-1/2" |
| | 16.41-00004 | 2 | Flatwasher 21/64" x 9/16" x 1/16" |
| 18 | 16.42-00002 | 2 | Lockwasher 5/16" |
| 19 | 16.59-00068 | 1 | Elbow 1/4" MPT x 3/8" Tube (Filter Outlet) |
| | 16.57-57134 | 1 | Fuel Line (Filter to Pump) |
| | | | Following used Before Engine Serial No. 835131 |
| | 16.50-00082 | 1 | Fuel Filter Bowl Gasket |
| | | | Following used After Engine Serial No. 835130 |
| | 16.50-00099 | 1 | Fuel Filter Bowl Gasket |
| | | | Following parts used between Serial Nos. 818099 & 818842 |
| 20 | 16.24-07136 | 1 | Fuel Filter Bracket |
| 21 | 16.30-00068 | 2 | Capscrew 5/16" - 18 x 1-1/8" Hex Head (Bracket to Engine) |
| 18 | 03.54-60005 | 2 | Lockwasher 5/16" |

FUEL PUMP

ELECTRIC FUEL PUMP - Original Equipment before Engine Serial Number 808670

| | | | |
|---|-------------|---|---|
| 4 | 16.83-10000 | 1 | Electric Fuel Pump Assembly - AC - (Replaces Bendix electric fuel pumps) |
| | | | Note: At approximately Engine Serial Number 805151, the fuel pump is mounted on the rear cover, requiring parts listed below. Earlier engines have no provision on the rear cover for mounting the fuel pump. |
| 5 | 16.22-06348 | 1 | Fuel Pump Bracket |
| 6 | 16.32-00096 | 2 | Capscrew - Flat Head 5/16" - 18 x 1" |
| 7 | | 1 | Capscrew 5/16" - 24 x 2" |
| 8 | 03.54-60005 | 1 | Lockwasher 5/16" |
| 9 | | 1 | Nut 5/16" - 24 |

To replace original-equipment-electric fuel pump, a 16.96-00050 Mechanical Fuel Pump Kit may be ordered.

MECHANICAL FUEL PUMP - Original Equipment after Engine Serial Number 808669

| | | | |
|----|-------------|---|--|
| 22 | 16.83-00005 | 1 | Mechanical Fuel Pump Assembly - Either Carter M-3109S or AC-5594926 (Use AC-5621743 for service) |
| | 16.96-00058 | | Fuel Pump Repair Kit - Carter |
| | 16.96-00053 | | Fuel Pump Repair Kit - AC R496 |
| 23 | 16.50-00138 | 1 | Fuel Pump Gasket |
| 24 | 16.11-00024 | 1 | Fuel Pump Push Rod |
| 25 | 16.11-00025 | 1 | Fuel Pump Mounting Plate |
| 26 | 16.50-05756 | 1 | Mounting Plate Gasket |
| 27 | 16.30-00132 | 2 | Capscrew 3/8" - 16 x 1-1/2" (Attaching Carter Pump) |
| 27 | 16.30-00128 | 2 | Capscrew 3/8" - 16 x 1-1/4" (Attaching AC Pump) |
| 28 | 16.30-00004 | 2 | Capscrew 1/4" - 20 x 5/8" |
| 29 | 16.42-00004 | 2 | Lockwasher 3/8" |
| 30 | 16.41-00006 | 2 | Plain Washer 25/64" x 11/16" x 1/16" |
| 31 | 03.54-60004 | 2 | Lockwasher 1/4" |

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WORLD'S LARGEST BUILDER OF MOTOR BOATS

| Code No. | Part No. | No. Req'd | Name |
|-------------|-------------|--------------|------|
|-------------|-------------|--------------|------|

FUEL LINES AND FITTINGS

Used after Serial Number 818098 Model "283" and used on All Model "283M" with the 16.81-07254 Fuel Filter mounted at the Rear Support Bracket.

| | | | |
|----|-------------|---|--|
| | 16.59-00068 | 1 | Elbow - 1/4" MPT x 3/8" Tube (Fuel Pump Inlet) |
| 10 | 16.59-07600 | 2 | Elbow - (Fuel Pump Outlet) |
| | 16.57-57154 | 1 | Fuel Line - Pump to Carburetor - 283 Carter |
| | 16.57-57156 | 1 | Fuel Line - Pump to Carburetor - 283 Rochester |
| | 16.57-57132 | 1 | Fuel Line - Pump to Carburetor - 283M |
| | 16.99-00014 | 1 | Fuel Line Clamp |
| | 16.59-06670 | 1 | Elbow 1/8" MPT x 5/16" Tube |

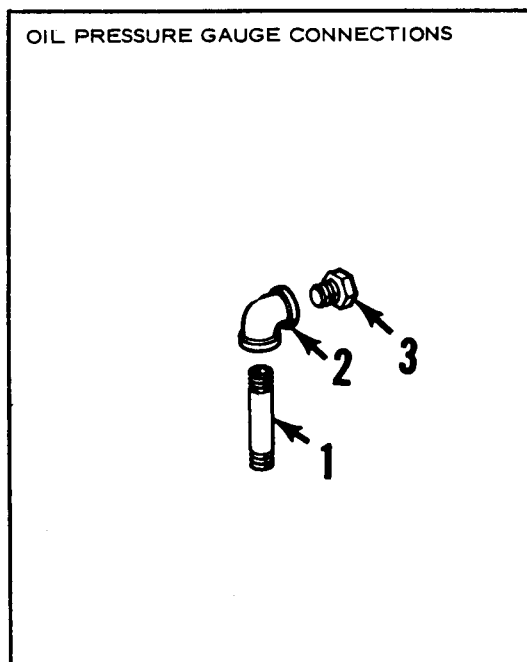
CYLINDER BLOCK SIDE COVER PLATE

NOTE: Used only on engines before Serial Number 808670 with Electric Fuel Pump

| | | | |
|----|-------------|---|--|
| 11 | | 1 | Cover Plate (Covers opening in cylinder block used by Chevrolet to mount automotive fuel pump) |
| 12 | 16.50-05756 | 1 | Cover Plate Gasket |
| 13 | 16.30-00124 | 4 | Capscrew 3/8" - 16 x 1" |
| 14 | 16.42-00004 | 4 | Lockwasher 3/8" |
| 15 | 16.41-00006 | 4 | Flat Washer 25/64" x 11/16" x 1/16" |

OIL PRESSURE GAUGE CONNECTIONS

| | | | |
|---|-------------|---|---------------------------|
| 1 | 16.58-10062 | 1 | Pipe Nipple 1/8" x 1-1/2" |
| 2 | 16.58-10027 | 1 | Female Elbow 45° - 1/8 PT |
| 3 | 16.58-10151 | 1 | Pipe Plug 1/8" |



| Code No. | Part No. | No. Req'd | Name |
|-------------|-------------|--------------|------|
|-------------|-------------|--------------|------|

CRANKCASE VENTILATOR

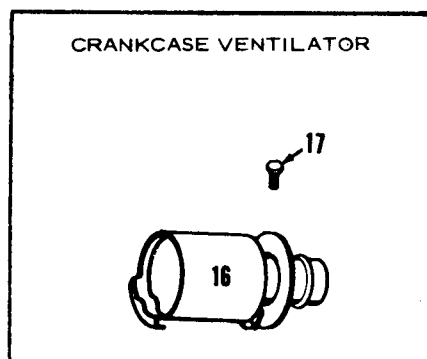
Used on all engines

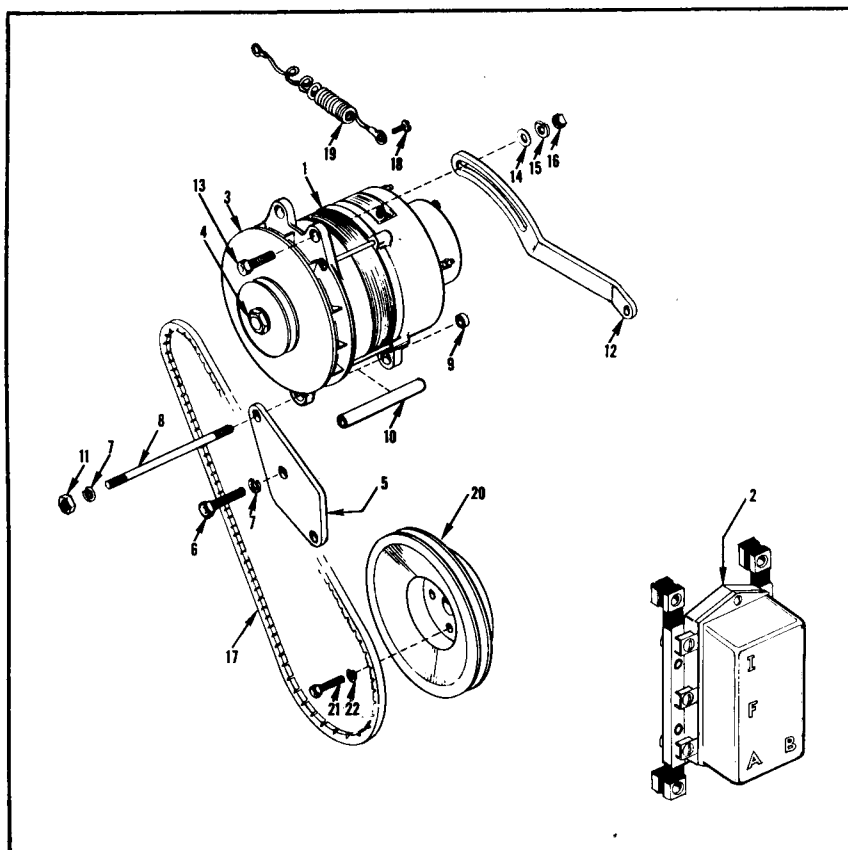
| | | | |
|----|-------------|---|--|
| 16 | 16.11-00031 | 1 | Crankcase Ventilator (Located under intake manifold) Used only on 283 Carter and 283M Engines |
| | 16.70-06138 | 1 | Crankcase Ventilator (Located under intake manifold) Used only on 283 Rochester Engines |
| 17 | 16.11-00167 | 1 | Capscrew 1/4" - 20 x 7/16", Special |

VENTILATING VALVE ASSEMBLY

The following is a list of the ventilating valve assembly parts used after Engine Ser. No. 840448. To service the ventilating valve on engines before Engine Ser. No. 840449, it will be necessary to order the parts preceded by an (*).

| | | |
|--------------|---|--|
| *16.20-08010 | 1 | Adapter, vent valve to cylinder block |
| *16.32-40001 | 1 | Screw, flat head 1/4"-20 x 7/8" |
| *16.43-00010 | 1 | Washer, toothlock internal 1/4" |
| *16.59-10563 | 2 | Elbow, 1/2" T x 1/4" MPT (Only one (1) req'd before #840448) |
| *16.99-00055 | 1 | Valve Assembly, ventilation (AC-6421345) |
| 16.50-06080 | 1 | Housing Gasket. |
| 16.57-56628 | 1 | Ventilating tube 1/2" - Used only on 283M Engine |
| 16.57-56638 | 1 | Ventilating tube 1/2" - Used only on 283 Engine |



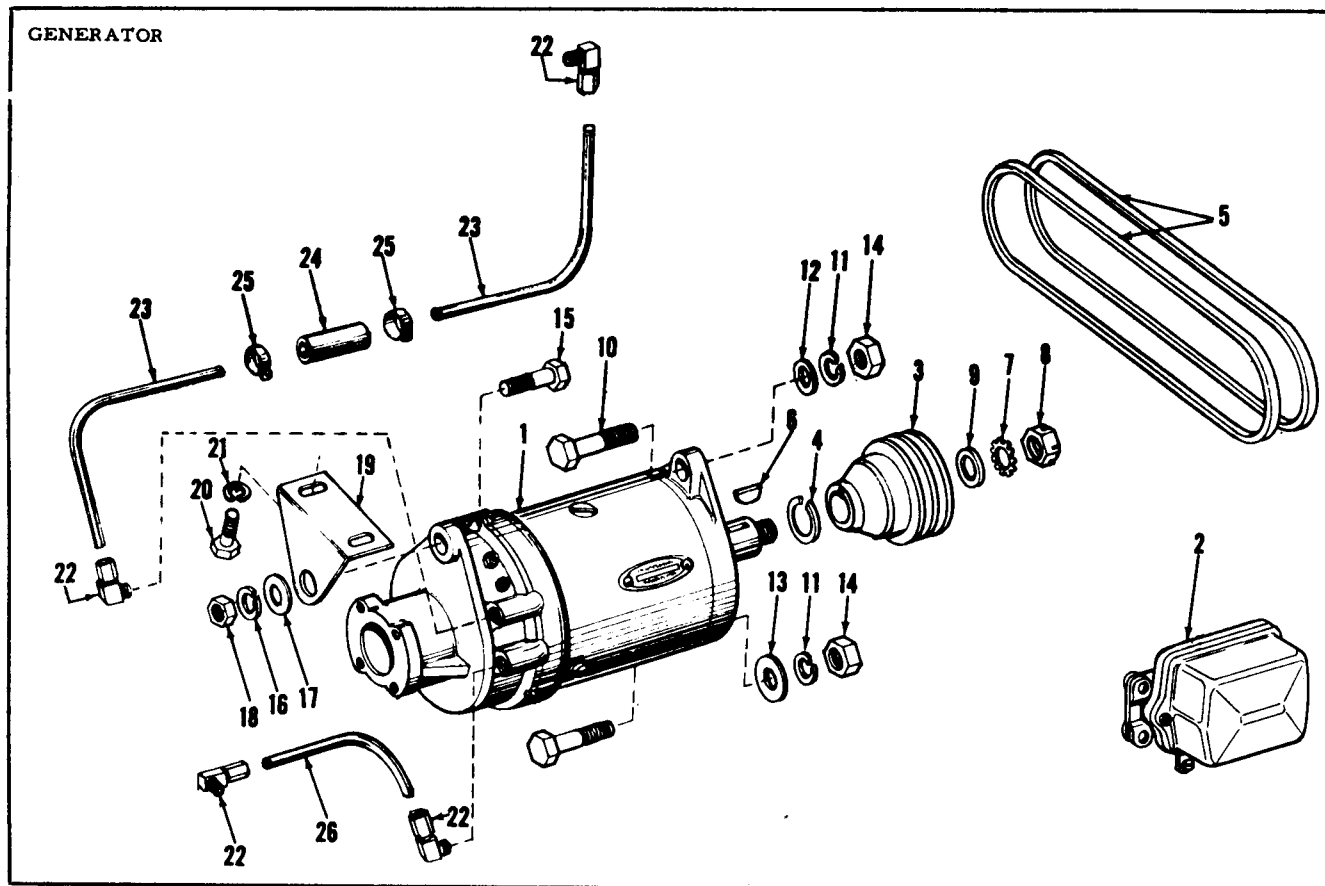


| Code No. | Part No. | No. Req'd | Name |
|----------|----------|-----------|------|
|----------|----------|-----------|------|

AUTOLITE ALTERNATOR

Used after engine number 822572 also 821951 and 821952

| | | | |
|----|-------------|---|--|
| 1 | 16.65-00003 | 1 | Alternator 12 volt, 40 amp. (Autolite ALE-5202-A) |
| 2 | 16.60-00028 | 1 | Alternator Voltage Regulator (Autolite VBV-6201AA-3) |
| 3 | | 1 | Alternator Fan (Autolite PU-1605) |
| 4 | | 1 | Alternator Pulley (Autolite PU-585) |
| 5 | 16.70-06680 | 1 | Alternator Support Bracket |
| 6 | 16.30-00128 | 2 | Capscrew 3/8" x 1-1/4" - 16 |
| 7 | 16.42-00004 | 3 | Lockwasher 3/8" |
| 8 | 16.72-06684 | 1 | Alternator Support Rod |
| 9 | 16.57-07198 | 1 | Support Rod Spacer - Short |
| 10 | 16.57-07196 | 1 | Support Rod Spacer - Long |
| 11 | 16.37-00001 | 1 | Hex Nut 3/8" - 24 |
| 12 | 16.24-06678 | 1 | Alternator Brace Bar |
| 13 | 16.30-00131 | 1 | Capscrew 3/8" - 24 x 1-3/8" |
| 14 | 16.41-00020 | 1 | Flatwasher 7/16" x 1" x 5/64" |
| 15 | 16.42-00004 | 1 | Lockwasher 3/8" |
| 16 | 16.37-00001 | 1 | Hex Nut 3/8" |
| 17 | 16.97-07184 | 1 | Alternator Belt |
| 18 | 16.32-00123 | 1 | Machine Screw #10-24 x 1/2" (Ground Terminal) |
| 19 | 16.63-07514 | 1 | Cable - Alternator Ground to Engine |
| 20 | 16.20-06688 | 1 | Alternator Drive Pulley (3-Groove) |
| 21 | 16.30-00070 | 4 | Capscrew 5/16" - 18 x 1-1/4" |
| 22 | 16.42-00002 | 4 | Lockwasher 5/16" |
| | 16.47-06612 | 1 | "Drive Loc" Pin |



| Code No. | Part No. | No. Req'd | Name |
|----------|----------|-----------|------|
|----------|----------|-----------|------|

AUTO-LITE WATER COOLED GENERATOR

Used after Engine Serial Number 814977 and before Engine Serial Number 822573 except 821951 and 821952.

NOTE: The following AUTO-LITE water cooled generator may be ordered as a complete kit. (Service Part Numbers 16.95-00080 Std. Rot. , 16.95-00079 Opp. Rot.) This kit includes all the necessary fittings to replace the lower output generators on earlier engines.

| | | | |
|---|-------------|-------|--|
| 1 | 16.60-00020 | 1 | AUTO-LITE water cooled Generator 12 volts Std. Rot. GKE-7301 (Auto-Lite) |
| 1 | 16.60-00021 | 1 | AUTO-LITE water cooled Generator 12 volts Opp. Rot. GKE-7302 (Auto-Lite) |
| 2 | 16.60-00011 | 1 | Generator Voltage Regulator, 12 volt (Auto-Lite VBO-6201K) |
| 3 | 16.20-06658 | 1 | Generator Pulley |
| 4 | 16.41-01802 | 1 | Generator Washer |
| 5 | 16.97-06500 | 1 pr. | Generator Belts |
| | 16.58-10151 | 1 | 1/8" Brass Pipe Plug (Gen. Drain) |
| | 16.50-00066 | 1 | Generator Gasket |

| Code No. | Part No. | No. Req'd | Name |
|-------------|-------------|--------------|------|
|-------------|-------------|--------------|------|

AUTO-LITE WATER COOLED GENERATOR (CONT'D)

GENERATOR WATER TUBE FITTINGS

Used with Rubber Impeller Pump

| | | | |
|----|-------------|---|----------------------------------|
| 22 | 16.59-10339 | 3 | 5/16" T x 1/8" MPT Elbow 90° |
| 22 | 16.59-10052 | 1 | 5/16" T x 1/8" MPT Connector |
| 23 | 16.57-56650 | 2 | Generator Outlet Tube |
| 24 | 16.54-10014 | 1 | 5/16" x 2-1/2" - 3 ply hose |
| 25 | 16.55-30003 | 2 | Hose Clamps |
| 26 | 16.57-57020 | 1 | Generator Inlet Tube (Std. Rot.) |
| 26 | 16.57-57018 | 1 | Generator Inlet Tube (Opp. Rot.) |

Used with Gear Type Pump

| | | | |
|----|-------------|---|----------------------------------|
| 22 | 16.59-10339 | 4 | 5/16" T x 1/8" MPT Elbow 90° |
| 23 | 16.57-56650 | 2 | Generator Outlet Tube |
| 24 | 16.54-10014 | 1 | 5/16" x 2-1/2" - 3 ply hose |
| 25 | 16.55-30003 | 2 | Hose Clamps |
| 26 | 16.57-57182 | 1 | Generator Inlet Tube (Std. Rot.) |
| 26 | 16.57-56650 | 1 | Generator Inlet Tube (Opp. Rot.) |

GENERATOR (Autolite)

Note: The 12 volt Autolite generators used before engine serial number 814978 are no longer available. It is recommended that the 16.95-00090 alternator kit be ordered in place of the generator. When the alternator kit is used, it will be necessary to remove the brushes from the generator and use the generator to drive the water pump or purchase 16.95-07352 water pump drive assembly.

| | | | |
|---|-------------|---|--|
| 2 | 16.60-00009 | 1 | Generator Voltage Regulator - 12 volt (Auto-Lite GHW-4202-L) |
| 4 | 16.41-01802 | 1 | Generator Pulley Washer |

Used before 814043 (and on later Serial Nos. 814047, 814048, 814051, 814054, 814062, 814073, 814079, 814080, 814081, 814082, 814083, 814087, 814098, 814099, 814103, 814105, 814107, 814109, 814112, 814115, 814118, 814119, 814121, 814122, 814123, 814124, 814126, 814135, 814137, 814139, 814143, 814153, 814165, 814166, 814167, 814168, 814195, 814239, 814357, 814384, 814409.

| | | | |
|---|-------------|-------|-----------------|
| 5 | 16.60-05946 | 1 pr. | Generator Belts |
|---|-------------|-------|-----------------|

Note: If generator pulley is required for above engine you must order the 16.20-06658 pulley and one pair of 16.97-06500 belts.

Used after 814042 (except later serial numbers listed above)

| | | | |
|---|-------------|-------|------------------|
| 3 | 16.20-06658 | 1 | Generator Pulley |
| 5 | 16.97-06500 | 1 pr. | Generator Belt. |

| Code No. | Part No. | No. Req'd | Name |
|-------------|-------------|--------------|------|
|-------------|-------------|--------------|------|

DELCO-REMY

Note: Replacement Delco-Remy Generators, Part No. 16.60-00012 Std. Rot., are no longer stocked. They may be obtained through your local Delco-Remy Service Center or they can be replaced with a 16.60-00016 Auto-Lite Generator. It will be necessary to use the following parts with the Auto-Lite Generator.

| | | |
|-------------|-------|-------------------|
| 16.20-06658 | 1 | Generator Pulley |
| 16.97-06500 | 1 pr. | Generator Belts |
| 16.60-00009 | 1 | Voltage Regulator |

| | | | |
|---|-------------|---|--|
| 1 | 16.60-00013 | 1 | Generator - 12 Volt - Opp. Rot. (Delco-Remy 1102205) |
| 2 | 16.60-00008 | 1 | Generator Voltage Regulator - 12 volt (Delco-Remy 1119255) |

Used only with Delco-Remy Generators, stamped 1102178 and 1102179

| | | | |
|---|-------------|-------|-----------------|
| 5 | 16.60-05946 | 1 pr. | Generator Belts |
|---|-------------|-------|-----------------|

Note: If replacement generator pulley is required for above generators you must order the 16.20-06658 pulley and one pair of 16.97-06500 belts.

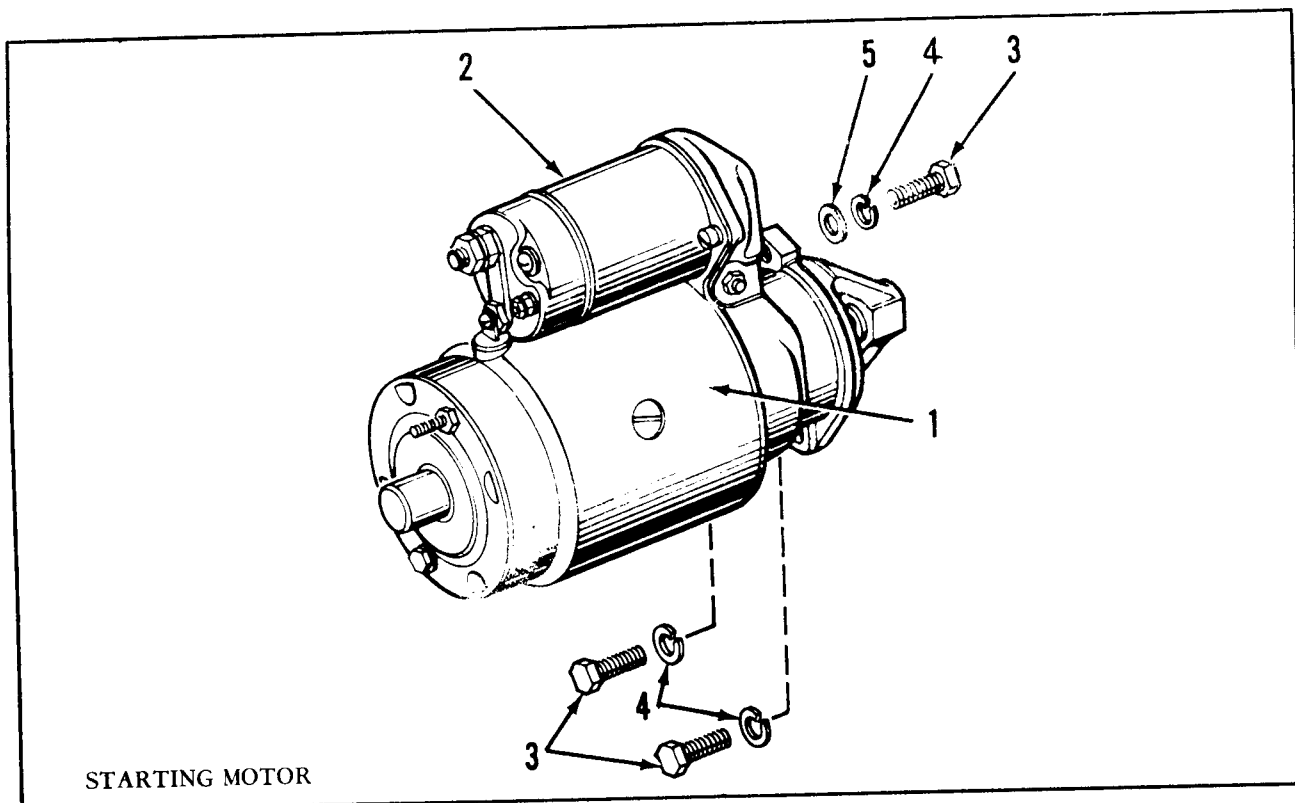
Used only with Delco-Remy Generators, stamped 1102205 and 1102206

| | | | |
|---|-------------|-------|------------------|
| 3 | 16.20-06472 | 1 | Generator Pulley |
| 5 | 16.97-06500 | 1 pr. | Generator Belts |

Note: If you order Delco-Remy Generators 1102178 or 1102179 (number stamped in housing) we will substitute 1102205 or 1102206. Therefore, you must order one Pulley and one pair of 16.97-06500 Belts, to complete the installation. This is necessary because the replacement generators have shafts with smaller diameter. The 1102178 and 1102179 Delco-Remy generators were used as original equipment before Engine Serial Number 809754 - (and on later Serial Numbers 809755, 809757, 809760, 809762, 809765, 809766, 809773, 809774, 809775, 809776, 809778, 809779, 809781, 809783, 809786, 809787, 809795, and 809799).

Used with ALL GENERATORS

| | | | |
|----|-------------|---|---|
| 6 | 16.10-00130 | 1 | Generator Pulley Key |
| 7 | | 1 | Pulley Lockwasher - 1/2" External Shakeproof |
| 8 | | 1 | Nut - 1/2" Generator Shaft, Auto-Lite X-156, Delco 451071 |
| 9 | | 1 | Washer - Generator Shaft, Auto-Lite GK-174, Delco 30205 |
| 10 | 16.30-00301 | 2 | Capscrew 1/2" - 20 x 1-3/4" (Generator Attaching) |
| 11 | 16.42-00008 | 2 | Lockwasher 1/2" |
| 12 | 16.41-00010 | 1 | Flat Washer 33/64" x 7/8" x 1/16" |
| 13 | 16.41-00015 | 1 | Flat Washer 33/64" x 1-1/8" x 5/32" |
| 14 | 16.36-00009 | 2 | Nut - 1/2" - 20 |
| 15 | 16.04-90256 | 1 | Capscrew 7/16" - 20 x 1-1/2" |
| 16 | 16.42-00006 | 1 | Lockwasher 7/16" |
| 17 | | 1 | Flat Washer 29/64" x 1-1/8" |
| 18 | 16.36-00081 | 1 | Nut 7/16" - 20 |
| 19 | 16.70-06202 | 1 | Generator Support Bracket, (Replaces 5936) |
| 20 | 16.30-00120 | 2 | Capscrew 3/8" - 16 x 3/4" |
| 21 | 16.42-00004 | 2 | Lockwasher 3/8" |



| Code No. | Part No. | No. Req'd | Name |
|----------|----------|-----------|------|
|----------|----------|-----------|------|

STARTING MOTOR

Note: Starting Motors of both Prestolite and Delco-Remy manufacture have been used on these engines. Either make of Starting Motor may be used for replacement. (On some engines originally equipped with Auto-Lite starting motors, it will be necessary to remove from the front of the block, a dowel which interferes with installation of a Delco-Remy Starting Motor.)

PRESTOLITE (FORMERLY AUTO-LITE)

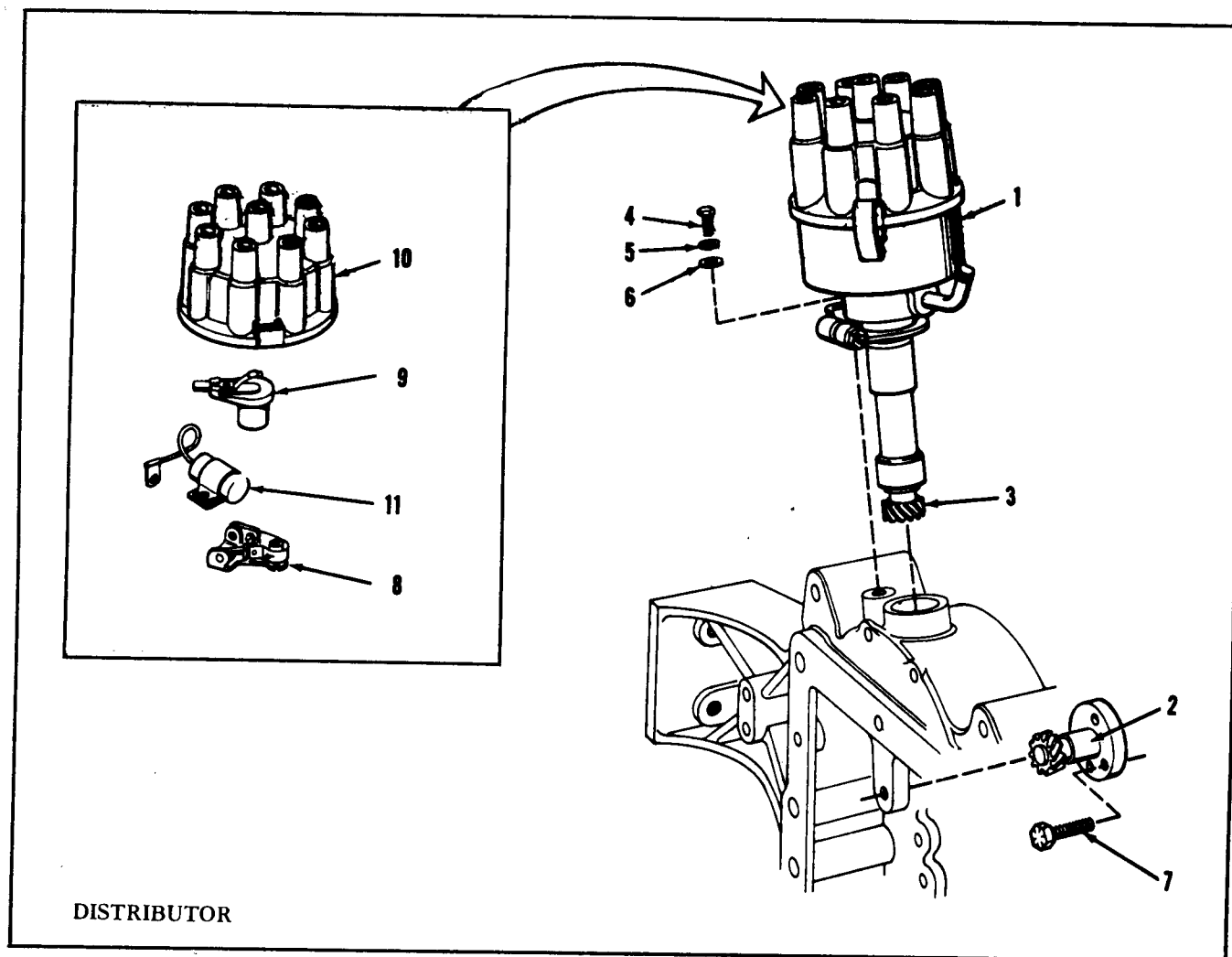
| | | | |
|---|-------------|---|--|
| | 16.61-00038 | 1 | Starting Motor - 12V - Std. Rot. (Prestolite MHA-7005, replaces MDU-6007, MDU-7018, MDU-7015 & MDU-7032) |
| 1 | | | |
| 1 | 16.61-00039 | 1 | Starting Motor - 12V - Opp. Rot. (Prestolite MHA-7006, replaces MDU-6006, MDU-7019, MDU-7022 & MDU-7033) |
| 1 | 02.19-00016 | 1 | Solenoid Starting Switch - 12 volt - Auto-Lite |

DELCO-REMY

| | | | |
|---|-------------|---|---|
| 1 | 16.61-00018 | 1 | Starting Motor - 12 volt - Std. Rot. (Delco-Remy 1107889) |
| 1 | 16.61-00005 | 1 | Starting Motor - 12 volt - Opp. Rot. (Delco-Remy 1107754) |
| 2 | 02.31-00006 | 1 | Solenoid Starting Switch - 12 volt - Delco-Remy |

ALL ENGINES

| | | | |
|---|-------------|---|-------------------------------------|
| 3 | 16.30-00124 | 3 | Capscrew 3/8" - 16 x 1" |
| 4 | 16.42-00004 | 3 | Lockwasher 3/8" |
| 5 | 16.41-00006 | 1 | Flat Washer 25/64" x 11/16" x 1/16" |



| Code No. | Part No. | No. Req'd. | Name |
|----------|----------|------------|------|
|----------|----------|------------|------|

IGNITION DISTRIBUTOR

Note: Ignition Distributors and coils of both Prestolite and Delco-Remy manufacture have been used on these engines. When making replacement, distributors and coils **MUST BE OF THE SAME MAKE.**

PRESTOLITE

| | | | |
|---|--------------|---|--|
| 1 | 16. 64-00029 | 1 | Distributor Assembly - Std. & Opp. Rot. (Prestolite) IBB-4301-B) (Includes driven gear and advance arm) (Replaces IBB-4109A, IBB-4201A, IBB-4201B and IBB-4301A) |
| 3 | 16. 69-00011 | 1 | Distributor Driven Gear |
| | 16. 69-00009 | 1 | Distributor Driven Gear Pin |

DELCO-REMY

| | | | |
|---|--------------|---|---|
| 1 | | 1 | Distributor Assembly - Std. & Opp. Rot. (Delco-Remy 1110630) (Includes driven gear and advance arm) |
| 3 | 16. 69-00013 | 1 | Distributor Driven Gear |
| | 16. 69-00003 | 1 | Distributor Driven Gear Pin |

ALL ENGINES

| | | | |
|---|--------------|---|---|
| 2 | 16. 95-00017 | 1 | Distributor Drive Assembly (Attaches to Camshaft Sprocket or Gear) Consists of: 16. 72-05968 Adapter 16. 07-00000 Distributor Drive Gear 16. 69-00009 Distributor Drive Gear Pin |
| 4 | 16. 30-00000 | 1 | Distributor Spark Advance Arm Setscrew 1/4" - 20 x 1/2" |
| 5 | 03. 54-60004 | 1 | Setscrew Lockwasher 1/4" |
| 6 | 16. 41-00003 | 1 | Setscrew Flat Washer 1/4" |
| | 16. 51-00000 | 1 | "O" Ring |
| 7 | 16. 30-06026 | 3 | Camshaft Sprocket or Gear Bolts |

Below parts fit Prestolite Distributor IBB-4301A and IBB 4301B only.

| | | | |
|----|--------------|---|----------------------------|
| 8 | 16. 69-00031 | 1 | Distributor Breaker Points |
| 9 | 16. 69-00044 | 1 | Distributor Rotor |
| 10 | 16. 69-00045 | 1 | Distributor Cap |
| 11 | 16. 69-00043 | 1 | Distributor Condenser |

Below parts fit Prestolite Distributors IBB-4201-B, IBB-4109-A & IBB-4201-A only.

| | | | |
|----|--------------|---|----------------------------|
| 8 | 16. 69-00031 | 2 | Distributor Breaker Points |
| 9 | 16. 69-00033 | 1 | Distributor Rotor |
| 10 | 16. 69-00034 | 1 | Distributor Cap |
| 11 | 16. 69-00032 | 1 | Distributor Condenser |

Below parts fit Delco-Remy Distributor only.

| | | | |
|----|--------------|---|----------------------------|
| 8 | 16. 69-00036 | 1 | Distributor Breaker Points |
| 9 | 16. 69-00037 | 1 | Distributor Rotor |
| 10 | 16. 69-00035 | 1 | Distributor Cap |
| 11 | 16. 69-00038 | 1 | Distributor Condenser |

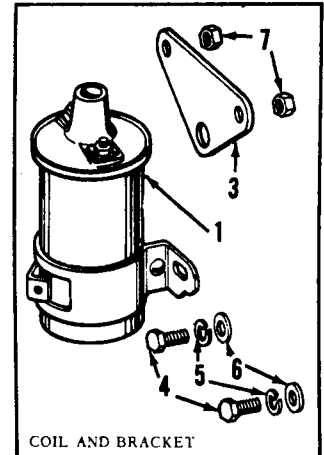
| Code No. | Part No. | No. Req'd | Name |
|----------|----------|-----------|------|
|----------|----------|-----------|------|

IGNITION COIL AND BRACKET

Note: Ignition Coils and Distributors of both Prestolite and Delco-Remy manufacture have been used on these engines. When making replacement, coils and distributors must be same make. Replacement coils have internal resistors, and when they are installed, the primary resistor which was separate from, and came with the original equipment coil, must be discarded.

COIL

| | | | |
|---|-------------|---|--|
| 1 | 16.64-00014 | 1 | Ignition Coil & Bracket - 12 volt Prestolite 200603 |
| 1 | 16.64-00016 | 1 | Ignition Coil & Bracket - 12 volt Delco-Remy 1115065 |



ALL ENGINES

| | | | |
|---|-------------|---|---|
| 3 | 16.70-06340 | 1 | Coil Bracket (See Note Below) |
| 4 | 16.30-00001 | 2 | Capscrew 1/4" - 28 x 1/2" (Coil to Bracket) |
| 5 | 03.54-60004 | 2 | Lockwasher 1/4" |
| 6 | 16.41-00002 | 2 | Flat Washer 9/32" x 5/8" x 1/16" |
| 7 | 16.36-00001 | 2 | Nut 1/4" - 28 |

Note: The 16.70-06340 Coil Bracket is used to mount the Coil on the engine rear cover. On engines before Serial Number 804884 with coils mounted on one of the intake manifold bolts, if a new coil bracket is required, it will be necessary to use the above parts and change the coil-mounting-location.

IGNITION CABLES

Standard Rotation Engines Only

| | | |
|-------------|---|--------------------------------------|
| 16.63-07631 | 2 | Spark Plug Cable - Cyl. #1 & #2 |
| 16.63-06162 | 1 | Spark Plug Cable - Cyl. #3 |
| 16.63-06164 | 1 | Spark Plug Cable - Cyl. #4 |
| 16.63-06166 | 3 | Spark Plug Cable - Cyl. #5, #6, & #8 |
| 16.63-06168 | 1 | Spark Plug Cable - Cyl. #7 |

Opposite Rotation Engines Only

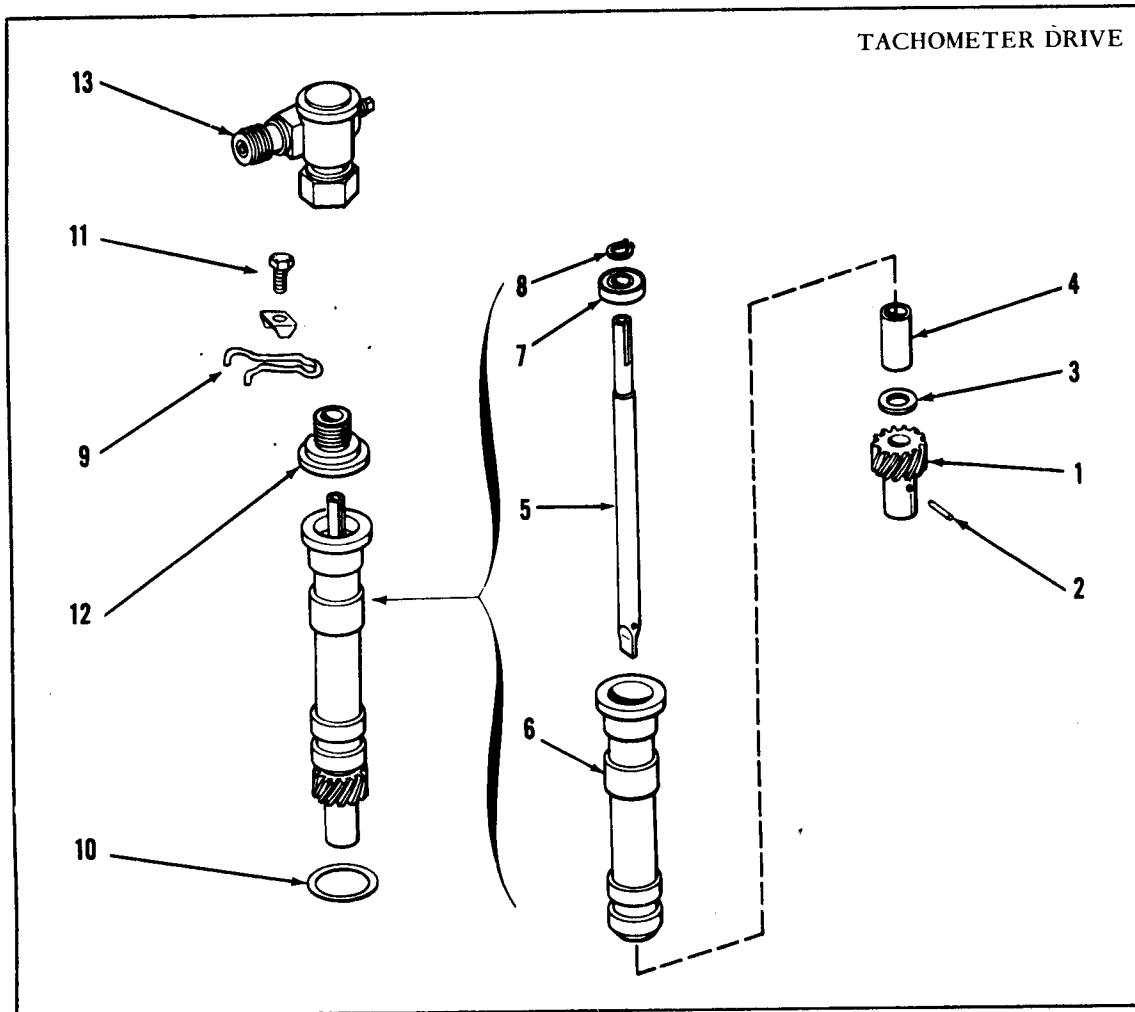
| | | |
|-------------|---|---------------------------------|
| 16.63-07631 | 2 | Spark Plug Cable - Cyl. #1 & #2 |
| 16.63-06162 | 2 | Spark Plug Cable - Cyl. #3 & #6 |
| 16.63-06164 | 1 | Spark Plug Cable - Cyl. #4 |
| 16.63-06166 | 1 | Spark Plug Cable - Cyl. #5 |
| 16.63-06168 | 2 | Spark Plug Cable - Cyl. #7 & #8 |

All Engines

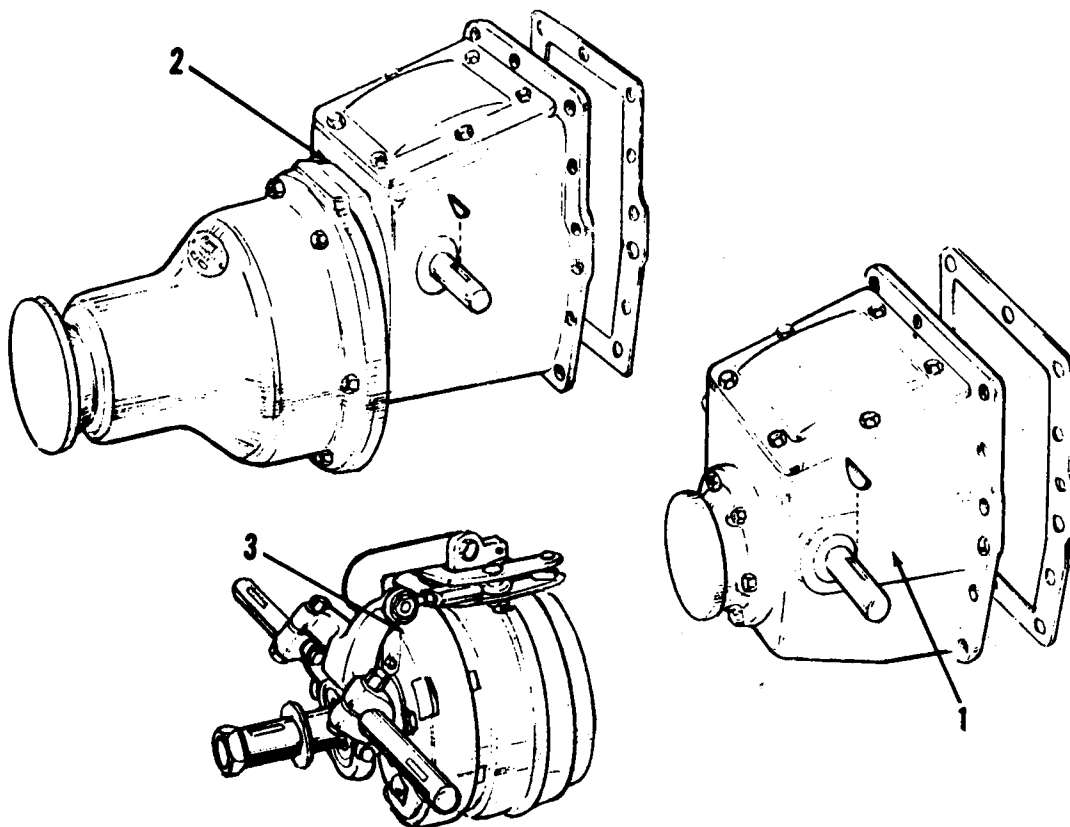
| | | |
|-------------|-------|-----------------------------|
| 16.92-00001 | 1 set | Ignition Cable Decals |
| 16.11-00059 | 2 | Cable Separator |
| 16.11-00060 | 2 | Cable Separator |
| 16.63-07636 | 1 | Coil Cable - Hi.Tension |
| 16.62-06256 | 8 | Spark Plug - Champion UJ-6" |

ELECTRICAL GROUND

| | | |
|-------------|---|--|
| 16.44-47484 | 1 | Stud, Electrical Ground (left side engine) |
| 16.41-10005 | 1 | Flat Washer 25/64" x 11/16" x 1/16" |
| 16.36-10009 | 1 | Nut, Brass 3/8" - 24 |



| Code No. | Part No. | No. Req'd | Name |
|----------|------------------|-----------|---|
| | TACHOMETER DRIVE | | |
| | 16.95-00014 | 1 | Tachometer & Oil Pump Drive Assembly - includes following parts: |
| 1 | | 1 | 16.08-00000 Tachometer & Oil Pump Drive Gear (Delco Remy 1961198) |
| 2 | | 1 | 16.72-06068 Drive Gear Retaining Pin |
| 3 | | 1 | 16.41-00016 Drive Gear Thrust Washer (Delco-Remy 1928464) |
| 4 | | 1 | 16.99-00007 Tachometer Drive Shaft Bushing (Delco-Remy 1923250) |
| 5 | | 1 | 16.72-05930 Tachometer Drive Shaft |
| 6 | | 1 | 16.21-05932 Tachometer Drive Shaft Housing |
| 7 | | 1 | 16.90-00004 Tachometer Drive Shaft Pilot Bearing |
| 8 | | 1 | 16.99-00005 Pilot Bearing Snap Ring |
| 9 | 16.11-00004 | 1 | Tachometer Drive Clamp Unit |
| 10 | 16.50-05758 | 1 | Tachometer Drive Clamp Gasket |
| 11 | 16.30-00124 | 1 | Capscrew 3/8" - 16 x 1" |
| 12 | 16.72-15934 | 1 | Tachometer Adapter |
| 13 | 42.11-00001 | 1 | Tachometer Right Angle Drive Adapter (not furnished with engine) |



MANUAL REVERSE GEAR

| Code No. | Part No. | No. Req'd | Name |
|----------|----------|-----------|------|
|----------|----------|-----------|------|

REVERSE GEAR - MANUAL

COMPLETE ASSEMBLY (with housing ready for installation)

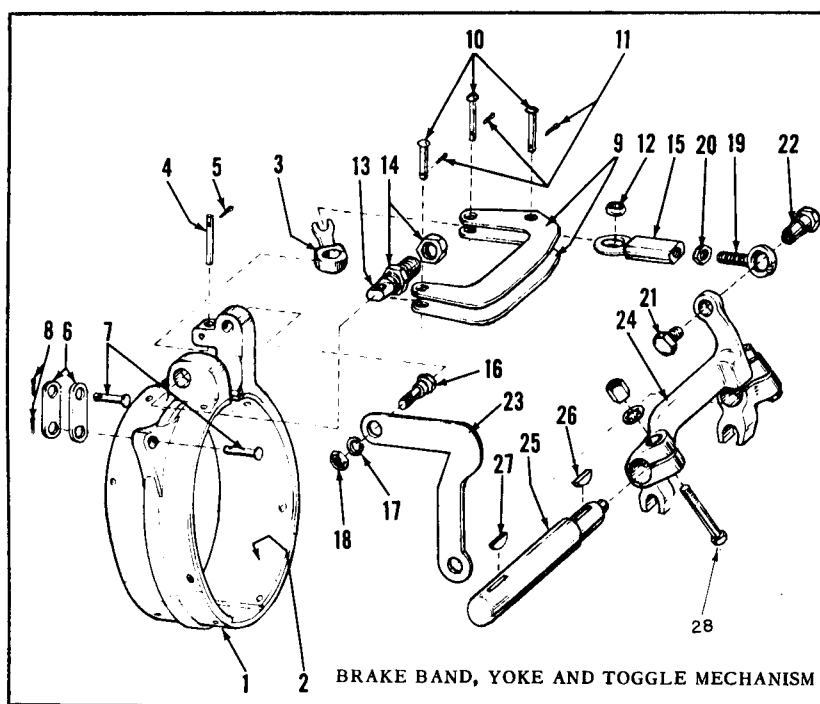
| | | | |
|---|-------------|---|---|
| 1 | 16.95-00068 | 1 | Complete Reverse Gear Assembly - "283" Direct Drive |
| 2 | 16.95-00069 | 1 | 1-1/2:1 Reverse and Reduction Gear Assembly - "283-15" |
| 2 | 16.95-00070 | 1 | 1-1/2:1 Reverse and Reduction Gear Assembly - "283L-15" |
| 2 | 16.95-00071 | 1 | 2:1 Reverse and Reduction Gear Assembly - "283-20" |
| 2 | 16.95-00072 | 1 | 2:1 Reverse and Reduction Gear Assembly - "283L-20" |
| 2 | 16.95-00087 | 1 | 2-1/2:1 Reverse and Reduction Gear Assembly - "283-25" |
| 2 | 16.95-00088 | 1 | 2-1/2:1 Reverse and Reduction Gear Assembly - "283L-25" |

COMPLETE ASSEMBLY (reverse gear only - no housing)

| | | | |
|---|-------------|---|--|
| 3 | 16.00-00012 | 1 | Reverse Gear Assembly - All Manual Direct Drive |
| 3 | 16.00-00013 | 1 | Reverse Gear Assembly - All Manual 1-1/2:1 Reduction Drive |
| 3 | 16.00-00015 | 1 | Reverse Gear Assembly - All Manual 2:1 & 2-1/2:1 Reduction Drive |

Chris-Craft

WORLD'S LARGEST BUILDER OF MOTOR BOATS

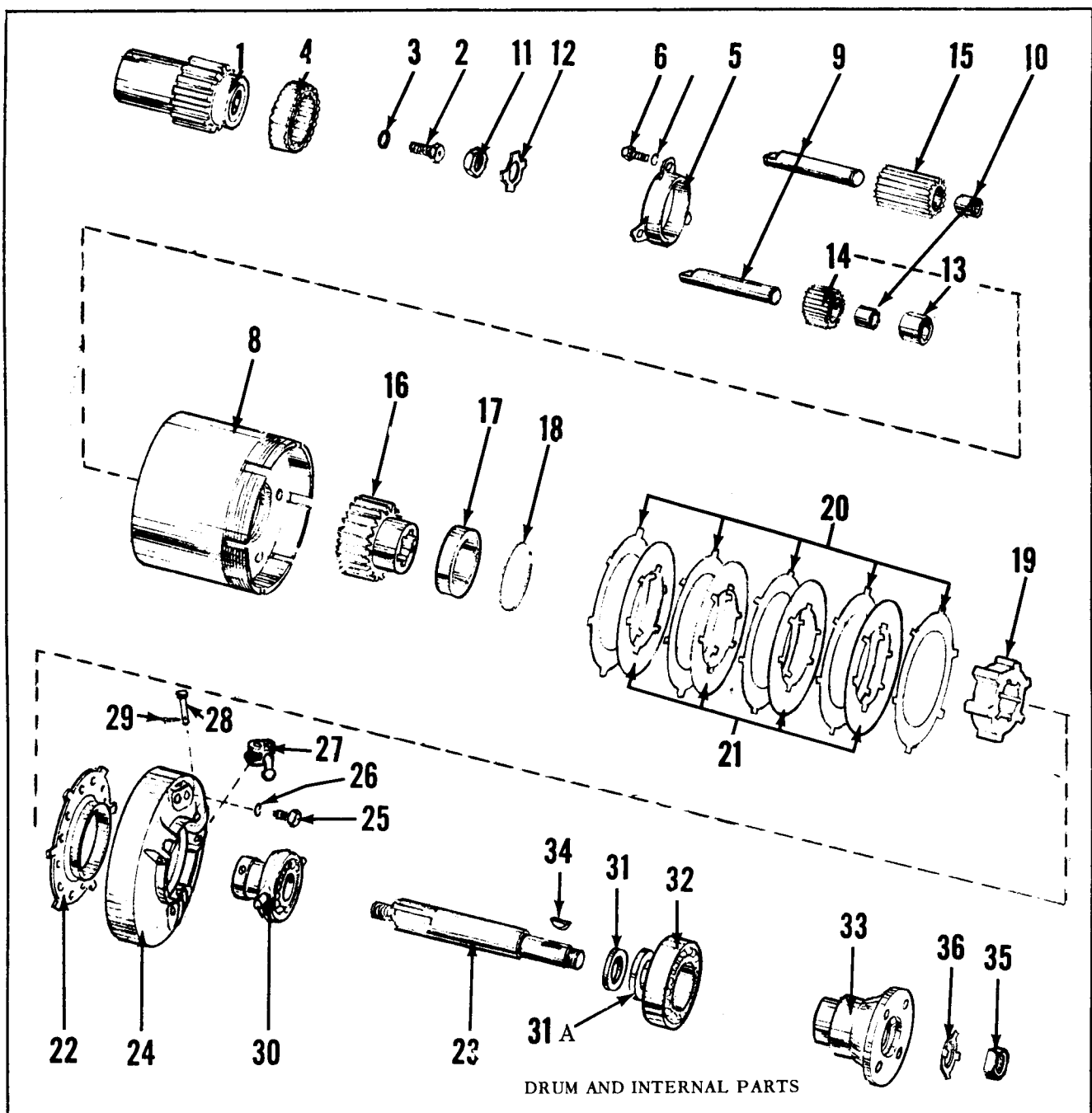


| Code No. | Part No. | No. Req'd | Name |
|----------|----------|-----------|------|
|----------|----------|-----------|------|

REVERSE GEAR - MANUAL (CONT'D)

BRAKE BAND, YOKE & TOGGLE MECHANISM

| | | | | |
|----|-------------|-------|---------------------------------------|------------|
| 1 | 16.04-90367 | 1 | Brake Band with Lining | (25XE-19) |
| 2 | 16.04-90110 | 1 set | Lining only for Brake Band | (2XE-370B) |
| 3 | 16.04-90151 | 1 | Toggle Lever - Short | (3XE-427B) |
| 4 | 16.04-90157 | 1 | Toggle Pin - Short | (3XE-435) |
| 5 | 16.47-00003 | 1 | Cotter Pin 1/8" | |
| 6 | 16.04-90357 | 2 | Brake Band Drag Link | (2XE-472) |
| 7 | 16.04-90358 | 2 | Brake Band Drag Link Pin | (2XE-473) |
| 8 | 16.47-00003 | 2 | Drag Link Cotter Pin 1/8" | |
| 9 | 16.04-90369 | 2 | Toggle Lever - Long | (25XE-426) |
| 10 | 16.04-90154 | 3 | Toggle Pin - Long | (3XE-430) |
| 11 | 16.47-00003 | 3 | Cotter Pin - 1/8" | |
| 12 | 16.04-90344 | 1 | Toggle Ball Joint | (3XE-432A) |
| 13 | 16.04-90152 | 1 | Toggle Adjusting Bolt | (3XE-428) |
| 14 | 16.04-90153 | 2 | Adjusting Bolt Locknut | (3XE-429) |
| 15 | 16.04-90148 | 1 | Toggle Link - End | (3XE-422) |
| 16 | 16.04-90158 | 1 | Brace Screw | (3XE-436) |
| 17 | | 1 | Lockwasher 5/16" Shakeproof | (X-11706) |
| 18 | 16.39-00009 | 1 | Nut 5/16" - 24 | |
| 19 | 16.04-90149 | 1 | Toggle Link | (3XE-423) |
| 20 | 16.36-00005 | 1 | Nut 3/8" - 24 | |
| 21 | 16.04-90156 | 1 | Yoke Ball Joint Screw | (3XE-434) |
| 22 | 16.04-90155 | 1 | Yoke Ball Joint | (3XE-433) |
| 23 | 16.04-90368 | 1 | Brake Band Support | (25XE-288) |
| 24 | 16.04-90116 | 1 | Throwout Yoke | (3XA-111) |
| 25 | 16.04-90115 | 2 | Yoke Shaft | (3XA-65) |
| 26 | 03.94-60011 | 2 | Yoke Shaft to Yoke Key (Woodruff #11) | |
| 27 | 03.94-60127 | 1 | Yoke Shaft to Arm Key (Woodruff #127) | |
| 28 | 16.04-90796 | 2 | Screw, Cap SQ. HD 3/8"24x1-3/4" | |



| Code No. | Part No. | No. Req'd | Name |
|----------|----------|-----------|------|
|----------|----------|-----------|------|

REVERSE GEAR - MANUAL (CONT'D)

DRUM & INTERNAL PARTS

| | | | | |
|---|-------------|---|---------------------------------------|------------|
| 1 | 16.04-90362 | 1 | Engine Gear - includes washer | (25XE-4) |
| 2 | 16.30-06034 | 1 | Engine Gear Retaining Screw | |
| 3 | 16.43-00001 | 1 | Lockwasher 3/8" - External Shakeproof | |
| 4 | 16.04-90114 | 1 | Pilot Roller Bearing | (2XE-402) |
| 5 | 16.04-90112 | 1 | Gear Cage Bushing | (2XE-372C) |
| 6 | 16.30-00062 | 3 | Capscrew 5/16" - 18 x 3/4" | |
| 7 | 03.54-60005 | 3 | Lockwasher 5/16" | |

Chris-Craft

WORLD'S LARGEST BUILDER OF MOTOR BOATS

| Code No. | Part No. | No. Req'd | Name | |
|--------------------------------|-------------|-----------|--------------------------------------|------------|
| REVERSE GEAR - MANUAL (CONT'D) | | | | |
| 8 | 16.04-90365 | 1 | Gear Case or Drum | (HF-1012B) |
| 9 | 16.04-90086 | 6 | Pinion Stud | (2XE-8B) |
| 10 | 16.04-90085 | 9 | Pinion Gear Bushing | (2XE-7H) |
| 11 | 16.04-90108 | 1 | Propeller Gear Nut | (2XE-363) |
| 12 | 16.04-90109 | 1 | Propeller Gear Lockwasher | (2XE-366A) |
| 13 | 16.04-90342 | 3 | Pinion Gear Spacer | (2XE-327B) |
| 14 | 16.04-90082 | 3 | Pinion Gear - Short | (2XE-5K) |
| 15 | 16.04-90081 | 3 | Pinion Gear - Long | (2XE-5G) |
| 16 | 16.04-90079 | 1 | Propeller Gear | (2XE-3C) |
| 17 | 16.04-90113 | 1 | Gear Case Ball Bearing | (2XE-401) |
| 18 | 16.04-90299 | 1 | Bearing Retaining Ring | (RDB-350A) |
| 19 | 16.04-90366 | 1 | Disc Driver | (HF-1014A) |
| 20 | 16.04-90096 | 5 | Friction Disc - Outside | (HF-1108) |
| 21 | 16.04-90087 | 4 | Friction Disc - Inside | (2XE-10B) |
| 22 | 16.04-90088 | 1 | Pressure Plate | (2XE-11B) |
| 24 | 16.04-90095 | 1 | Adjusting Collar | (2XE-28) |
| 25 | 16.04-90103 | 1 | Adjusting Lockscrew | (2XE-76) |
| 26 | 16.42-00006 | 1 | Lockwasher 7/16" | |
| 27 | 16.04-90091 | 3 | Clutch Finger Assembly | (2XE-21A) |
| 28 | 16.04-90160 | 3 | Finger Pin | (4X-62) |
| 29 | 16.47-00003 | 3 | Cotter Pin 1/8" | |
| 30 | 16.04-90101 | 1 | Operating Sleeve - with Ball Bearing | |
| | | | Throwout Collar | (2XE-60B) |

Below Parts Used only on Direct Drive Engines

| | | | | |
|-----|-------------|---|------------------------------------|-----------|
| 23 | 16.04-90363 | 1 | Stub Shaft | (25XE-59) |
| 31 | 16.04-90106 | 1 | Thrust Washer | (2XE-235) |
| 31a | 16.04-90352 | 1 | Seal Washer | (X-11634) |
| 32 | 16.90-00017 | 1 | Rear Thrust Bearing | (X-10351) |
| 33 | 16.04-90364 | 1 | Shaft Coupling - Engine Half | (HF-1104) |
| 34 | 03.94-60127 | 1 | Shaft Coupling Key (Woodruff #127) | |
| 35 | 16.04-90271 | 1 | Shaft Coupling Nut | (RDA-363) |
| 36 | 16.04-90272 | 1 | Shaft Coupling Washer | (RDA-366) |

Below Parts Used only on Reduction Drive Engines

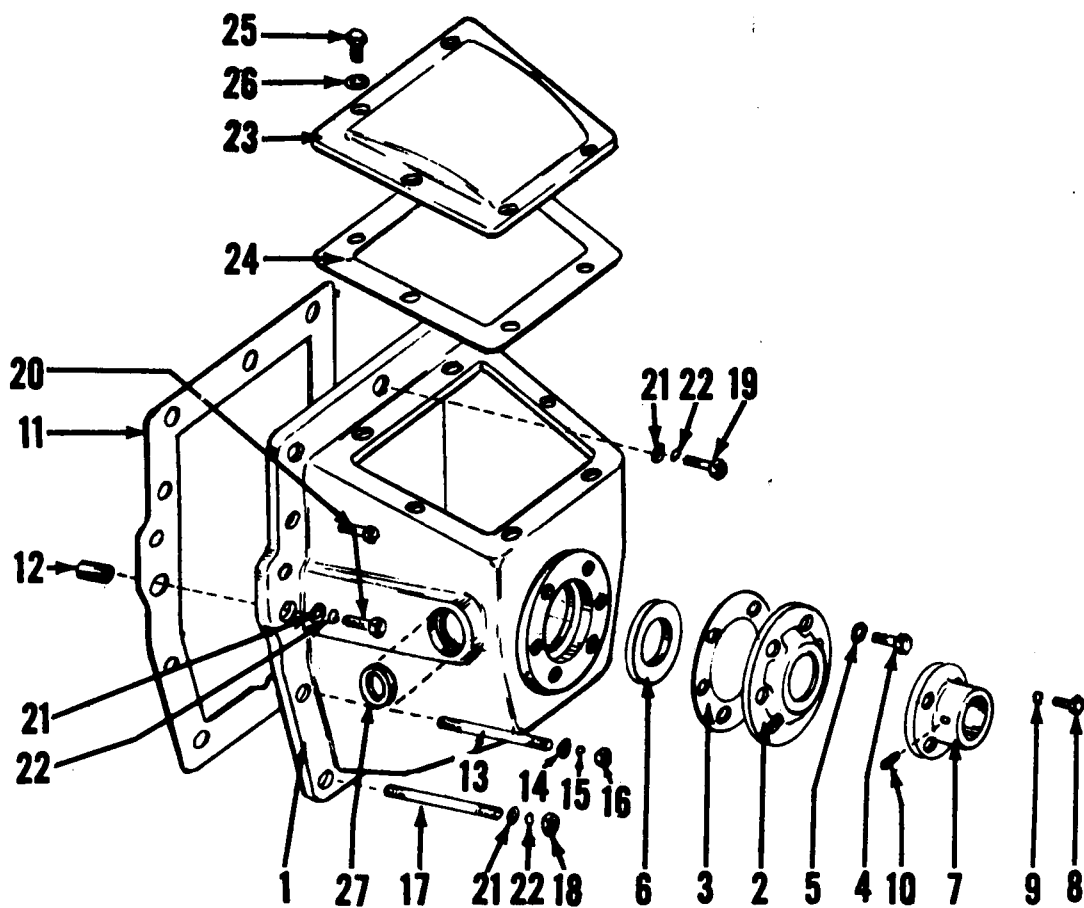
| | | | |
|-------------|---|---|------------|
| 16.04-90370 | 1 | Stub Shaft 1-1/2:1 Red. Only | (25XE-59B) |
| 16.04-90537 | 1 | Stub Shaft 2:1, 2-1/2:1 & 3:1 Red. Only | (25XE-59C) |
| 16.04-90402 | 1 | Retaining Ring | (X-11105) |

Note: When ordering 16.04-90370 or 16.04-90537 Stub Shafts for replacement in engines earlier than the below Serial Numbers, one 16.04-90515 Nut, one 16.47-00001 Cotter Pin and one 16.04-90514 Thrust Washer must also be ordered.

1-1/2:1 #815198

2:1 & 2-1/2:1 #815158

HOUSING AND RELATED PARTS



| Code No. | Part No. | No. Req'd | Name |
|-------------|-------------|--------------|------|
|-------------|-------------|--------------|------|

REVERSE GEAR - MANUAL (CONT'D)

REVERSE GEAR HOUSING & RELATED PARTS

Used Only on Direct Drive Engines

| | | | |
|--|-------------|---|---|
| 1 | 16.21-05948 | 1 | Reverse Gear Housing |
| 2 | 16.21-05982 | 1 | Rear Oil Seal Retainer |
| 3 | 16.50-05984 | 1 | Retainer Gasket |
| 4 | 16.30-00064 | 6 | Retainer Capscrew 5/16" - 18 x 7/8" |
| 5 | | 6 | Flat Washer 5/16" x 9/16" x .050" |
| 6 | 16.51-10000 | 1 | Rear Oil Seal (299W2-MI) |
| 7 | 16.20-00002 | 1 | Shaft Coupling - Shaft Half - 1" |
| | 16.20-00004 | 1 | Shaft Coupling - Shaft Half - 1-1/4" |
| Note: Couplings for other shaft sizes also available. These couplings same in appearance as 16.20-00022 and 16.20-02012 but are made of malleable iron for added strength. | | | |
| 8 | 16.30-00121 | 4 | Shaft Coupling Capscrew 3/8" - 24 x 3/4" |
| 9 | 16.42-00004 | 4 | Shaft Coupling Lockwasher 3/8" |
| 10 | 03.29-60469 | 2 | Shaft Coupling Setscrew 7/16" - 14 x 1-1/4" |

Used Only on Reduction Drive Engines

| | | |
|-------------|---|----------------------|
| 16.21-05960 | 1 | Reverse Gear Housing |
|-------------|---|----------------------|

Used All Engines

| | | | |
|----|-------------|---|-------------------------------------|
| 11 | 16.50-05962 | 1 | Housing Gasket |
| 12 | 16.57-01777 | 2 | Alignment Dowel |
| 13 | 16.44-02326 | 6 | Stud - Housing to Block |
| 14 | 16.41-00006 | 6 | Flat Washer 25/64" x 11/16" x 1/16" |
| 15 | 16.42-00004 | 6 | Lockwasher 3/8" |
| 16 | 16.36-00005 | 6 | Nut 3/8" - 24 |
| 17 | 16.44-06032 | 3 | Stud Housing to Pan |
| 18 | 16.39-00004 | 3 | Nut 5/16" - 24 |
| 19 | 16.30-00066 | 1 | Capscrew 5/16" - 18 x 1" |
| 20 | 16.30-00068 | 4 | Capscrew 5/16" - 18 x 1-1/8" |
| 21 | 16.41-00004 | 8 | Flat Washer 21/64" x 9/16" x 1/16" |
| 22 | 03.54-60005 | 8 | Lockwasher 5/16" |
| 23 | 16.21-06004 | 1 | Reverse Gear Top Cover |
| 24 | 16.50-06006 | 1 | Top Cover Gasket |
| 25 | 16.30-00064 | 6 | Capscrew 5/16" - 18 x 7/8" |
| 26 | 16.41-10001 | 6 | Flat Washer 5/16" x 1/16" x .050" |
| 27 | 16.51-10003 | 2 | Yoke Shaft Oil Seal (18228-M) |

REVERSE GEAR - HYDRAULIC - PARAGON HF-2

Used on all engines before Serial Number 822570. Between Serial Numbers 822569 and 826408 both HF-2 and HF-7 gears were used. Read Reverse Gear name plate to determine gear model.

See Page 62 for Paragon HF-7 used on later engines.

COMPLETE ASSEMBLY

If replacement of a complete HF-2 gear is required, it will be necessary to order the corresponding complete P-300 gear shown on Page 80. Also order the #16.95-0100 Conversion Kit which includes the necessary parts for adapting the P-300 gear.

I M P O R T A N T

To install "P" 300 series Reverse & Reduction gear on engines previously equipped with HF-7 series gears a longer propeller shaft must be used. The table below gives comparative gear lengths.

| MODEL | LENGTH | MODEL | LENGTH |
|-------|--------|-------|--------|
| P-300 | | HF-7 | |
| 1.5:1 | 16.85 | 1.5:1 | 18.16 |
| 2.0:1 | 16.85 | 2.0:1 | 19.50 |
| 2.5:1 | 17.16 | 2.5:1 | 19.57 |
| 3.0:1 | 17.16 | 3.0:1 | 20.69 |

| Code No. | Part No. | No. Req'd | Name |
|----------|----------|-----------|------|
|----------|----------|-----------|------|

REVERSE GEAR - HYDRAULIC - PARAGON HF-2

| | | | |
|--|-------------|---|--|
| | 16.50-90020 | 1 | HF-2 Gasket Set - Direct and Reduction Drive |
|--|-------------|---|--|

DRUM & INTERNAL PARTS

| | | | |
|---|-------------|---|---|
| 1 | 16.04-90546 | 1 | Engine Gear Assembly - Includes gear and following parts: |
|---|-------------|---|---|

| | | | |
|-----|-------------|---|---------------------------------------|
| 1-a | 16.04-90542 | 1 | Engine Gear Retaining Screw (X-11822) |
| | 16.04-90543 | 1 | Lockwasher (X-11823) |
| | 16.04-90544 | 1 | Engine Gear "O" Ring Seal (X-11824) |

Below Parts used to retain Engine Gear prior to Serial Number 821065

| | | | |
|---|-------------|---|---|
| 2 | 16.04-90383 | 1 | Engine Gear Seal Washer (X-11479) |
| 3 | 16.04-90384 | 1 | Engine Gear "O" Ring Seal (X-11480) |
| 4 | 16.04-90385 | 1 | Engine Gear "O" Ring - Outer (X-11481) |
| 5 | 16.04-90386 | 1 | Engine Gear "O" Ring - Inner (X-11482) |
| 6 | 16.04-90387 | 1 | Engine Gear Retaining Screw 3/8" - 24 x 2 |
| 7 | 16.43-00001 | 1 | Lockwasher 3/8" - External Shakeproof |

Below Parts used on all engines

| | | | |
|----|-------------|---|---|
| 8 | 16.04-90388 | 1 | Pump Drive Key (X-11196) |
| 9 | 16.04-90389 | 1 | Gear Case or Drum (Z-10169) |
| 10 | 16.04-90390 | 1 | Gear Case Roller Bearing (HF-1123) |
| 11 | 16.04-90391 | 1 | Gear Case Roller Bearing Race (HF-1121) |
| 12 | 16.04-90392 | 2 | Bearing Retaining Ring (HF-1124) |
| 13 | 16.30-00062 | 3 | Capscrew 5/16" - 18 x 3/4" |
| 14 | 03.54-60005 | 3 | Lockwasher 5/16" |
| 15 | 16.04-90082 | 3 | Pinion Gear - Short (2XE-5K) |
| 16 | 16.04-90342 | 3 | Pinion Gear Spacer (2XE-327B) |
| 17 | 16.04-90081 | 3 | Pinion Gear - Long (2XE-5C) |
| 18 | 16.04-90085 | 9 | Pinion Gear Bushing (2XE-7H) |
| 19 | 16.04-90086 | 6 | Pinion Stud (2XE-8B) |

Following parts used before Serial Numbers 283H-811910, 283HL-811910, 283H-15 - 811692, 283HL-15 - 811698, 283H-20 - 812881, 283HL-20 - 812641, 283H-25 - 811745, 283HL-25 - 811498.

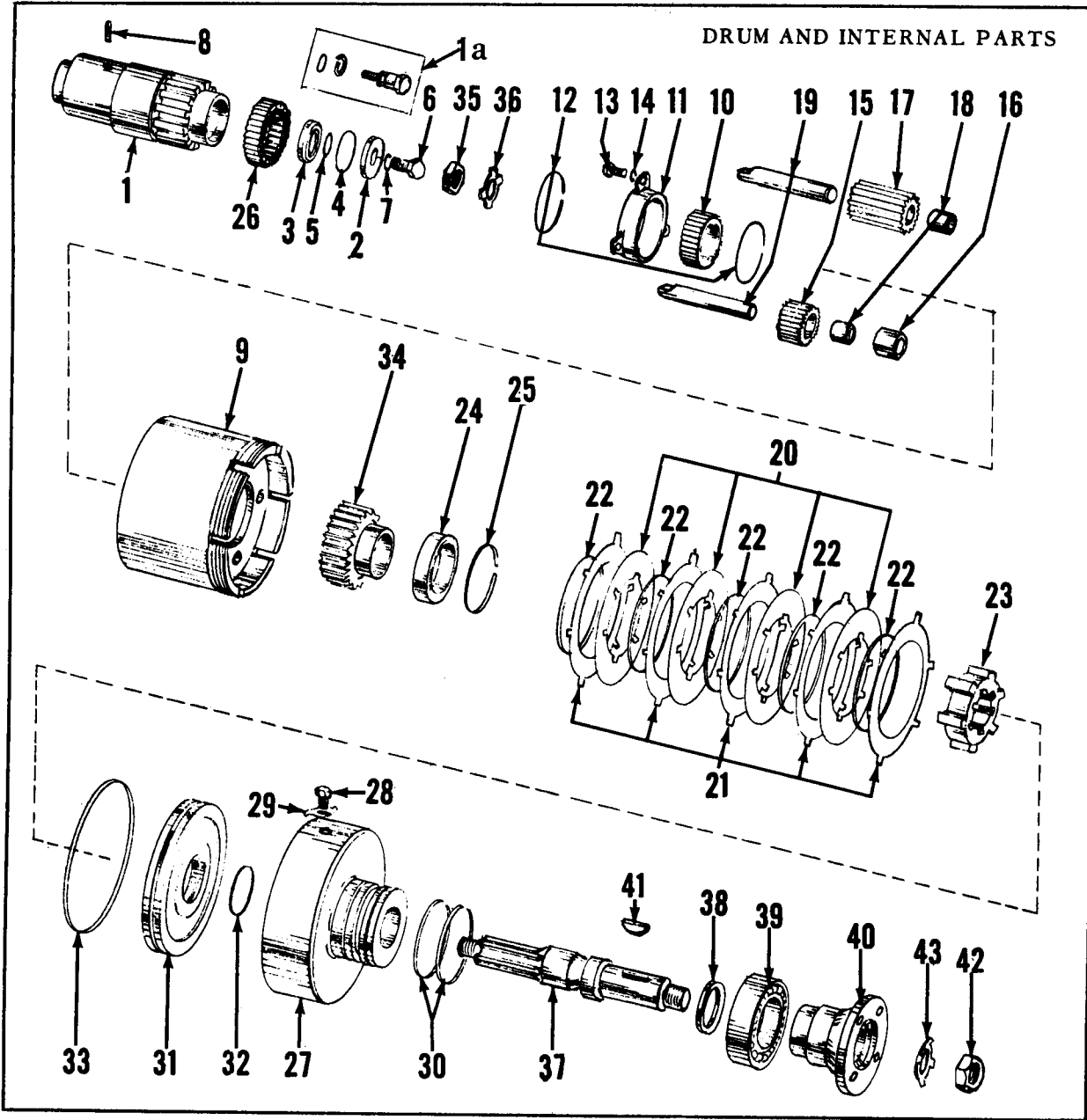
| | | | |
|----|-------------|---|---|
| 20 | 16.04-90087 | 4 | Friction Disc - Inside (2XE-10B) |
| 21 | 16.04-90096 | 5 | Friction Disc - Outside (HF-1108) |
| 22 | 16.04-90393 | 5 | Disc Separating Spring (X-11354) |
| | | 1 | Piston - Forward Drive - No longer serviced For replacement order one 16.04-90533 Piston with five 16.04-90532 Discs, six 16.04-90096 Discs and six 16.04-90393 Springs. |

Following parts used beginning with above Engine Serial Numbers

| | | | |
|----|-------------|---|-----------------------------------|
| 20 | 16.04-90532 | 5 | Friction Disc - Inside (X-11494) |
| 21 | 16.04-90096 | 6 | Friction Disc - Outside (HF-1108) |
| 22 | 16.04-90393 | 6 | Disc Separating Spring (X-11354) |
| 31 | 16.04-90533 | 1 | Piston Forward Drive (Y-11493) |

(See illustration with code numbers on following page 52)

DRUM AND INTERNAL PARTS



| Code No. | Part No. | No. Req'd | Name |
|-------------|-------------|--------------|------|
|-------------|-------------|--------------|------|

REVERSE GEAR - HYDRAULIC - PARAGON HF-2 (CONT'D)

DRUM & INTERNAL PARTS (CONT'D)

Below parts used on all engines

| | | | | |
|----|-------------|---|-----------------------------|------------|
| 23 | 16.04-90366 | 1 | Disc Driver | (HF-1014A) |
| 24 | 16.04-90113 | 1 | Gear Case Ball Bearing | (2XE-401) |
| 25 | 16.04-90299 | 1 | Bearing Retaining Ring | (RDB-350A) |
| 26 | 16.04-90114 | 1 | Pilot Roller Bearing | (2XE-402) |
| 27 | 16.04-90394 | 1 | Screw Collar | (X-11316) |
| 28 | 16.04-90395 | 2 | Screw Collar Lockscrew | (X-11237) |
| 29 | 16.04-90396 | 2 | Lockscrew Clip | (S-11240) |
| 30 | 16.04-90397 | 2 | Oil Distributor Piston Ring | (HF-1094) |
| 32 | 16.51-00005 | 1 | Piston "O" Ring - Inner | (X-11352) |
| 33 | 16.51-00006 | 1 | Piston "O" Ring - Outer | (X-10280) |
| 34 | 16.04-90079 | 1 | Propeller Gear | (2XE-3C) |
| 35 | 16.04-90108 | 1 | Propeller Gear Nut | (2XE-363) |
| 36 | 16.04-90109 | 1 | Propeller Gear Lockwasher | (2XE-366A) |

Below parts used only on Direct Drive Engines

| | | | | |
|----|-------------|---|------------------------------------|-----------|
| 37 | 16.04-90401 | 1 | Stub Shaft | (X-11635) |
| 38 | 16.04-90106 | 1 | Thrust Washer | (2XE-235) |
| | 16.04-90352 | 1 | Seal Washer | (X-11634) |
| 39 | 16.90-00017 | 1 | Rear Thrust Bearing | (X-10351) |
| 40 | 16.04-90364 | 1 | Shaft Coupling - Engine Half | (HF-1104) |
| 41 | 03.94-60127 | 1 | Shaft Coupling Key (Woodruff #127) | |
| 42 | 16.04-90271 | 1 | Shaft Coupling Nut | (RDA-363) |
| 43 | 16.04-90272 | 1 | Shaft Coupling Washer | (RDA-366) |

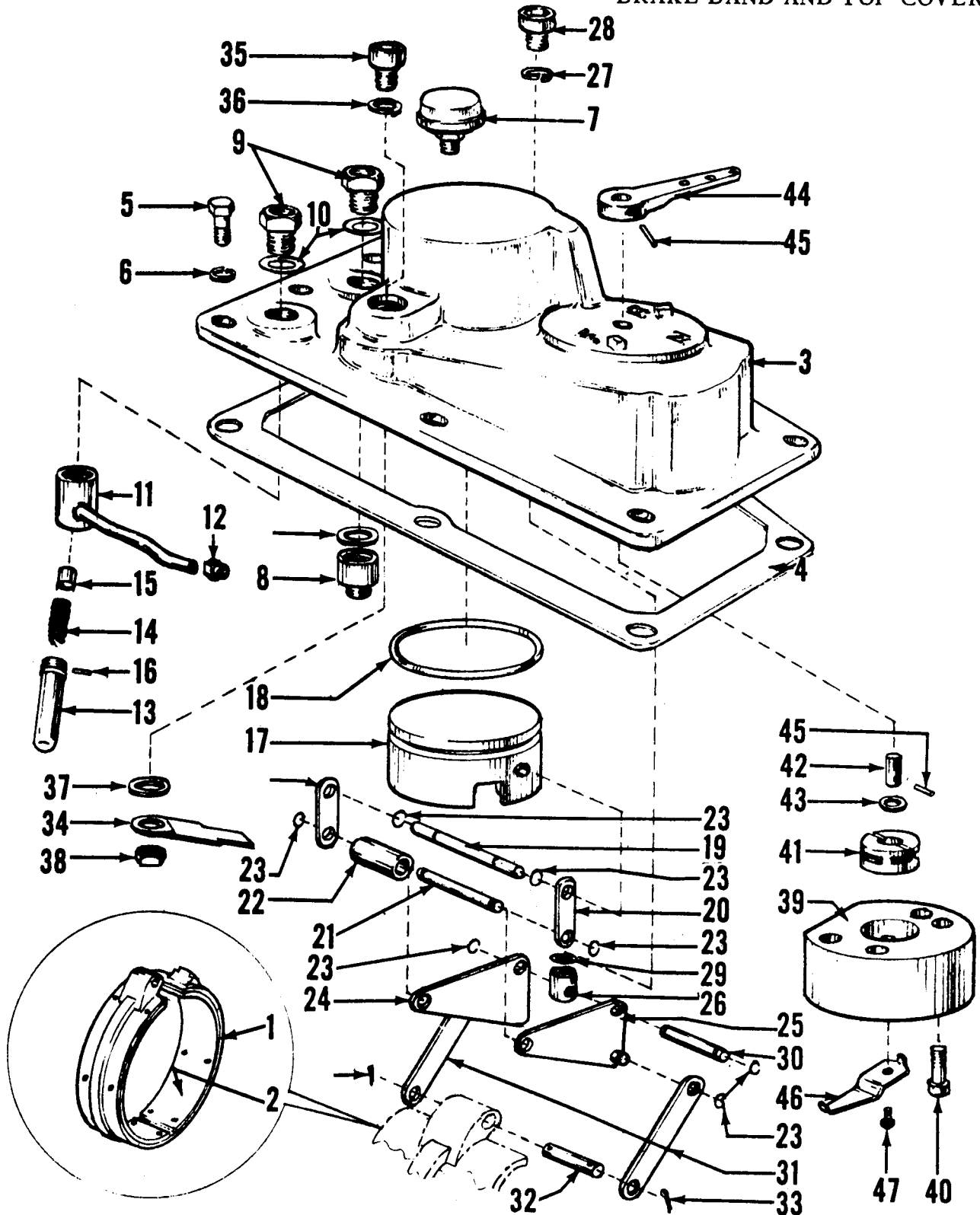
Below parts used only on Reduction Drive Engines

| | | | | |
|--|-------------|---|---|-----------|
| | 16.04-90512 | 1 | Stub Shaft - 1-1/2:1 Reduction Only | (Y-11630) |
| | 16.04-90513 | 1 | Stub Shaft - 2:1, 2-1/2:1 & 3:1 Red. Only | (Y-11358) |
| | 16.04-90402 | 1 | Stub Shaft Retaining Ring | (X-11105) |

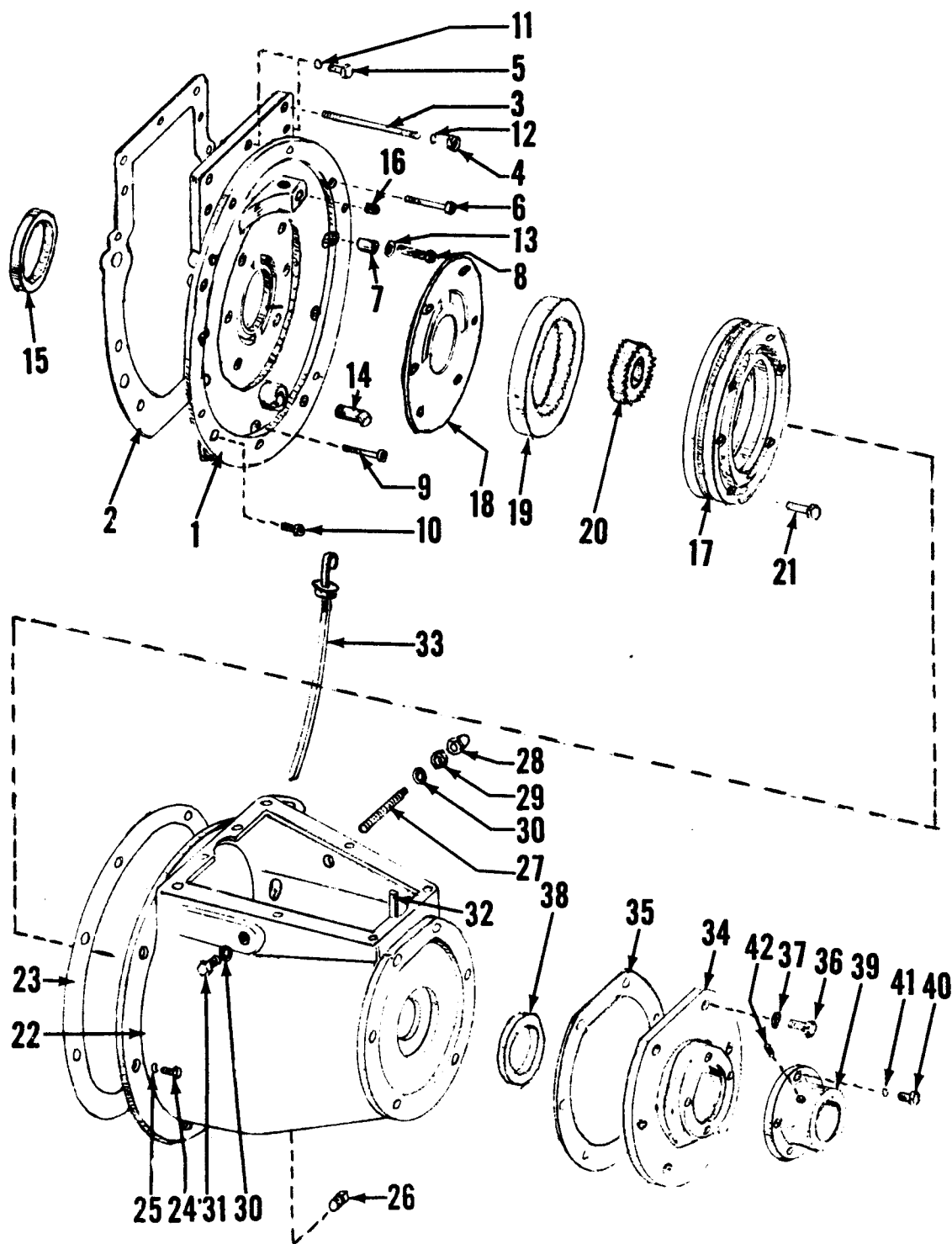
Note: When replacing stub shafts in reduction gears with earlier serial numbers than those listed below, you must order one 16.04-90515 Nut, one 16.47-00001 Cotter Pin 1/8" x 1-1/2" and one 16.04-90514 Thrust Washer:

| 1-1/2:1 | 2:1 | 2-1/2:1 |
|-----------------|-----------------|-----------------|
| 283H-15-4C8047 | 283H-20-4G1728 | 283H-25-4G3664 |
| 283HL-15-4C8117 | 283HL-20-4G1832 | 283HL-25-4G3828 |

BRAKE BAND AND TOP COVER



| Code No. | Part No. | No. Req'd | Name | |
|---|-------------|--------------|---|------------|
| REVERSE GEAR - HYDRAULIC - PARAGON HF-2 (CONT'D.) | | | | |
| BRAKE BAND & TOP COVER | | | | |
| 1 | 16.04-90403 | 1 | Brake Band with Lining | (Y-11361) |
| 2 | 16.04-90110 | 1 set | Lining Only for Brake Band | (2XE-370B) |
| 3 | 16.04-90404 | 1 | Top Cover | (Z-11319) |
| 4 | 16.50-00037 | 1 | Top Cover Gasket | (Y-11347) |
| 5 | 16.30-00120 | 8 | Capscrew 3/8-16 x 3/4" | |
| 6 | 16.42-00004 | 8 | Lockwasher 3/8" | |
| 7 | 16.04-90458 | 1 | Oil Breather | (X-10286) |
| 8 | 16.04-90405 | 1 | Connector Dowel | (X-11333) |
| 9 | 16.04-90406 | 2 | Oil Line Adapter (Reducer) | (X-11299) |
| 10 | 16.50-00038 | 2 | Oil Line Adapter Gasket | (X-11348) |
| 11 | 16.04-90407 | 1 | Control Valve Tube with Connector | (X-11345) |
| 12 | 16.04-90408 | 1 | Control Valve Body Nut | (X-11303) |
| 13 | 16.04-90409 | 1 | Relief Valve Housing | (HF-1068B) |
| 14 | 16.04-90410 | 1 | Relief Valve Spring | (HF-1075) |
| 15 | 16.04-90411 | 1 | Relief Valve Plug | (HF-1066C) |
| 16 | 16.04-90412 | 1 | Relief Valve Pin | (HF-1095) |
| 17 | 16.04-90413 | 1 | Reverse Piston | (X-11285) |
| 18 | 16.04-90414 | 1 | Reverse Piston "O" Ring | (X-10275) |
| 19 | 16.04-90415 | 1 | Piston Pin | (X-11328) |
| 20 | 16.04-90416 | 2 | Piston Link | (X-11286) |
| 21 | 16.04-90417 | 1 | Piston Link Pin | (X-11329) |
| 22 | 16.04-90418 | 1 | Piston Link Spacer | (X-11288) |
| 23 | 16.04-90419 | 8 | Linkage Retaining Ring | (X-10285) |
| 24 | 16.04-90420 | 1 | Reverse Band Lever Assy. - RH | (X-11322) |
| 25 | 16.04-90421 | 1 | Reverse Band Lever Assy. - LH | (X-11323) |
| 26 | 16.04-90422 | 1 | Pivot Post | (X-11321) |
| 27 | 16.42-00000 | 1 | Lockwasher | |
| 28 | 16.04-90637 | 1 | Capscrew - 1/2"-13 x 7/8" Socket Head | |
| 29 | 16.50-00039 | 1 | Pivot Post Gasket | (X-11428) |
| 30 | 16.04-90423 | 1 | Pivot Post Pin | (X-11327) |
| 31 | 16.04-90424 | 2 | Reverse Band Link | (X-11326) |
| 32 | 16.04-90425 | 1 | Reverse Band Pin | (X-11325) |
| 33 | 16.10-00126 | 2 | Cotter Pin 3/32" x 5/8" | |
| 34 | 16.04-90426 | 3 | Reverse Piston Spring | (X-11330) |
| 35 | 16.04-90637 | 1 | Capscrew - 1/2" x 13 x 7/8" Socket Head | |
| 36 | 16.42-00008 | 1 | Lockwasher | |
| 37 | 16.50-00039 | 1 | Gasket | (X-11428) |
| 38 | 03.40-68019 | 1 | Nut - 1/2"-13 | |
| 39 | 16.04-90427 | 1 | Control Valve Body | (Y-11295) |
| 40 | | 3 | Capscrew - 5/16"-18 x 7/8" Socket Head | |
| 41 | 16.04-90428 | 1 | Control Valve | (X-10298C) |
| 42 | 16.04-90429 | 1 | Control Valve Stem | (X-10302) |
| 43 | 16.04-90469 | 1 | Control Valve Stem "V" Block Packing | (X-10281) |
| 44 | 16.04-90430 | 1 | Control Valve Lever | (HF-1088A) |
| 45 | 16.04-90431 | 2 | Control Valve Lever Roll Pin | (X-10282) |
| 46 | 16.04-90432 | 1 | Control Valve Spring | (HF-1077A) |
| 47 | | 1 | Screw #10-32 x 3/8" | |



HOUSING AND RELATED PARTS

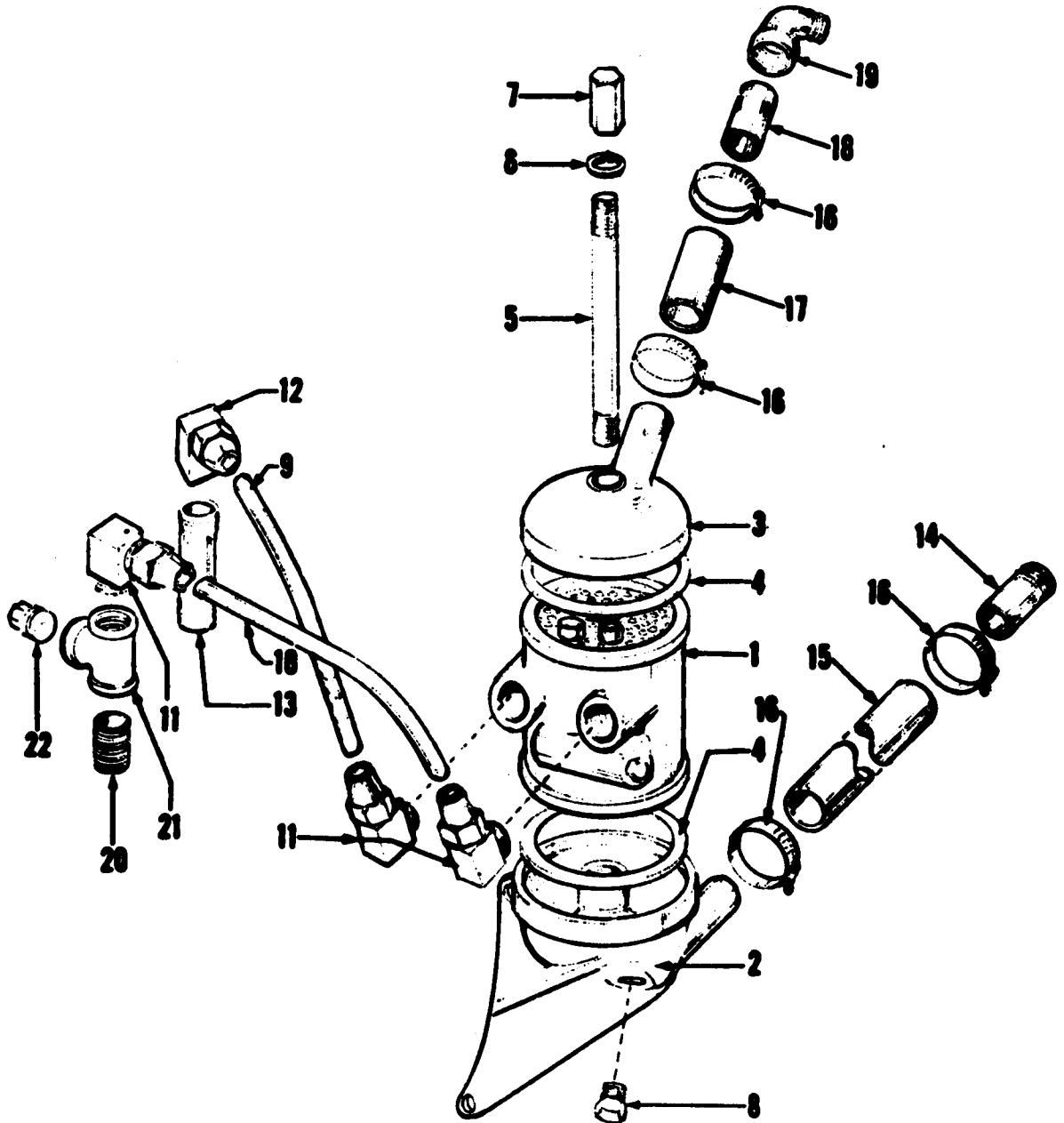
| Code No. | Part No. | No. Req'd | Name | |
|--|-------------|--------------|--|-----------|
| REVERSE GEAR - HYDRAULIC - PARAGON HF-2 (CONT'D) | | | | |
| REVERSE GEAR HOUSING & RELATED PARTS | | | | |
| 1 | 16.04-90433 | 1 | Front End Plate | (W-11427) |
| 2 | 16.50-05962 | 1 | End Plate to Engine Gasket | |
| 3 | 16.44-02326 | 2 | Stud - End Plate thru Rear Cover into Block | |
| 4 | 03.40-64016 | 2 | Nut 3/8" -24 | |
| 5 | 16.30-00066 | 3 | Capscrew 5/16"-18 x 1" End Plate into Rear Cover | |
| 6 | | 2 | Capscrew 3/8"-16 x 4" Socket Head - End Plate thru Rear Cover into Block | |
| 7 | 16.57-06116 | 2 | Hollow Dowel | |
| 8 | 16.30-06118 | 2 | Special Capscrew 3/8"-16 x 3-7/8" Socket Head | |
| 9 | 16.30-00430 | 3 | Capscrew 5/16"-18 x 4 Socket Head - End Plate thru Rear Cover into Block | |
| 10 | 16.30-30564 | 2 | Capscrew 5/16" x 3/4" Socket Head - End Plate into Rear Cover | |
| 11 | 03.54-60005 | 3 | Lockwasher 5/16" | |
| 12 | 16.42-00004 | 2 | Lockwasher 3/8" | |
| 13 | 16.41-00006 | 2 | Flat Washer - 3/8" | |
| 14 | 16.04-90434 | 1 | Oil Intake Pipe (in End Plate) | (X-11444) |
| 15 | 16.04-90435 | 1 | Front Oil Seal | (X-10260) |
| 16 | 16.04-90436 | 1 | Pipe Plug 3/8" - 18 Socket Head | |
| 17 | 16.04-90437 | 1 | Hydraulic Pump Body | (X-11424) |
| 18 | 16.04-90438 | 1 | Hydraulic Pump Port Plate | (X-11425) |
| 19 | 16.04-90439 | 1 | Hydraulic Pump Gear (Outer) | (HF-1084) |
| 20 | 16.04-90440 | 1 | Hydraulic Pump Gear (Inner) | (X-11423) |
| 21 | 16.30-00078 | 6 | Capscrew 5/16" -18 x 1-1/2" (Cut to length) | |
| 22 | 16.04-90441 | 1 | Reverse Gear Housing | (R-11318) |
| 23 | 16.50-00040 | 1 | Housing to Front End Plate Gasket | (HF-1100) |
| 24 | 16.30-00124 | 5 | Capscrew 3/8"-16 x 1" | |
| | 16.30-00130 | 2 | Capscrew 3/8"-16 x 1-3/8" - thru oil cooler bracket | |
| 25 | 16.42-00004 | 7 | Lockwasher 3/8" | |
| 26 | 16.58-10155 | 1 | Oil Drain Plug 1/4" | |
| 27 | 16.04-90442 | 1 | Reverse Band Adjusting Screw | (X-11331) |
| 28 | 16.04-90443 | 1 | Reverse Band Adjusting Crown Nut | (HJ-1133) |
| 29 | | 1 | Reverse Band Adjusting Jam Nut 1/2"-13 | |
| 30 | 03.53-00008 | 2 | Washer - 1/2" Brass | |
| | | 1 | Capscrew - 1/2"-13 x 1/2" (In Housing on Side Opposite Adjustment) | |
| 32 | 16.04-90444 | 1 | Oil Distributor Tube (Pressed in Reverse Gear Housing) | (X-11332) |
| 33 | 16.04-90534 | 1 | Oil Lever Test Rod, Install. Angles 10° to 16° (Direct Drive) | (Y-11698) |
| 33 | 16.04-90549 | 1 | Oil Level Test Rod, Install, Angles 5° to 10° (Direct Drive) | (Y-11699) |
| 33 | 16.04-90535 | 1 | Oil Level Test Rod, (Reduction Drive) Install. Angles 10° to 16° | (Y-11700) |
| 33 | 16.04-90550 | 1 | Oil Level Test Rod (Reduction Drive) Install. Angles 5° to 10° | |
| Used Only on Direct Drive Engines | | | | |
| 34 | 16.04-90445 | 1 | Rear Oil Seal Retainer | (Y-11338) |
| 35 | 16.50-00036 | 1 | Retainer Gasket | (Y-11083) |
| 36 | | 6 | Retainer Capscrew 3/8"-16 x 7/8" | |

| Code No. | Part No. | No. Req'd | Name |
|-------------|-------------|--------------|------|
|-------------|-------------|--------------|------|

REVERSE GEAR - HYDRAULIC - PARAGON HF-2 (CONT'D.)

REVERSE GEAR HOUSING & RELATED PARTS (CONT'D.)

| | | | | |
|----|-------------|---|--|------------|
| 37 | 16.04-90446 | 6 | Capscrew Washer Seal | (X-11353) |
| 38 | 16.51-10014 | 1 | Rear Oil Seal | (2XE-446A) |
| 39 | 16.20-00002 | 1 | Shaft Coupling - Shaft Half - 1" | |
| 39 | 16.20-00004 | 1 | Shaft Coupling - Shaft Half 1-1/4" | |
| | | | Note: Couplings for other shaft sizes also available | |
| 40 | 16.30-00121 | 4 | Shaft Coupling Capscrew 3/8"-24 x 3/4" | |
| 41 | 16.42-00004 | 4 | Shaft Coupling Lockwasher 3/8" | |
| 42 | 03.29-60469 | 2 | Shaft Coupling Setscrew 7/16"-14 x 1-1/4" | |



OIL COOLER

| Code No. | Part No. | No. Req'd | Name |
|-------------|-------------|--------------|------|
|-------------|-------------|--------------|------|

REVERSE GEAR - HYDRAULIC - PARAGON HF-2 (CONT'D.)

OIL COOLER - Used to cool hydraulic gear lubricant only

Following Used All Engines:

| | | | |
|----|-------------|---|---|
| 1 | 16.99-06110 | 1 | Oil Cooler Body |
| 2 | 16.22-06100 | 1 | Oil Cooler Base Bracket |
| 3 | 16.22-06102 | 1 | Oil Cooler Cap |
| 4 | 16.50-03254 | 2 | Oil Cooler Gasket |
| 5 | 16.44-41770 | 1 | Oil Cooler Stud |
| 6 | 16.50-03402 | 1 | Oil Cooler Copper Gasket |
| 7 | 16.72-16314 | 1 | Center Stud Nut 3/8"-24 Acorn |
| 8 | 16.58-10151 | 1 | Drain Plug 1/8" |
| 13 | 16.58-10070 | 1 | Pipe Nipple 1/4" x 1-1/2" (at Gear Inlet) |
| 20 | 16.58-10112 | 1 | Pipe Nipple 1/4" Close (Outlet at Gear) |
| 21 | 16.58-10190 | 1 | Pipe Tee 1/4" |
| 22 | 16.58-10155 | 1 | Pipe Plug 1/4" |

Note: Pipe Tee (code No. 21) is standard after Engine Serial No. 822915 to provide oil pressure gauge connection. To install Pipe Tee on earlier engines, order one each Code Numbers 11, 20, 21 & 22.

Following used from Water Pump Outlet to Oil Cooler

| | | | |
|----|-------------|-------|--|
| 14 | 16.58-10134 | 1 | Hose Nipple 1/2" x 2" |
| 15 | | 1 pc. | Hose 3/4" I. D. 3 ply x (18" long with water pump drive assembly) (11-1/4" with generator) |
| 16 | 24.00-00016 | 2 | Hose Clamps |

Following used from Oil Cooler Cap to Stb'd. Exhaust Adapter

| | | | |
|----|-------------|-------|-------------------------------------|
| 17 | | 1 pc. | Hose 3/4" I. D. 3 ply x 2-3/8" long |
| 18 | 16.58-10131 | 1 | Hose Nipple 1/2" x 1-1/4" |
| 19 | 26.27-00004 | 1 | Street Elbow 1/2" - 90° |
| 16 | 24.00-00016 | 2 | Hose Clamps |

Note: If necessary to service oil cooler oil lines on engines before Serial No. 813265, replace all original 7/16" fittings with the following 1/2" lines - fittings.

Following used after Engine Serial No. 813264

| | | | |
|----|-------------|---|---|
| 11 | 16.59-10563 | 3 | Std. Elbow 90° - 1/2" Tube x 1/4" MPT (at Cooler) |
| 9 | 16.57-56594 | 1 | Oil Line, 1/2" (Gear to Cooler) |
| 10 | 16.57-56596 | 1 | Oil Line, 1/2" (Cooler to Gear) |
| 12 | 16.59-10571 | 1 | Std. Elbow, 90° - 1/2" Tube x 1/4" FPT (at Gear) |

REVERSE GEAR - HYDRAULIC - PARAGON HF-7

Used on all engines after Serial Number 826407. Between Serial Numbers 822570 and 826408 both HF-2 and HF-7 gears were used. Read Reverse Gear name plate to determine gear model.

See Page 50 for Paragon HF-2 used on earlier engines.

| Part No. | No. Req'd | Name |
|-------------|--------------|------|
|-------------|--------------|------|

COMPLETE ASSEMBLY - Does not include Oil Cooler or Adapter and Vibration damper.

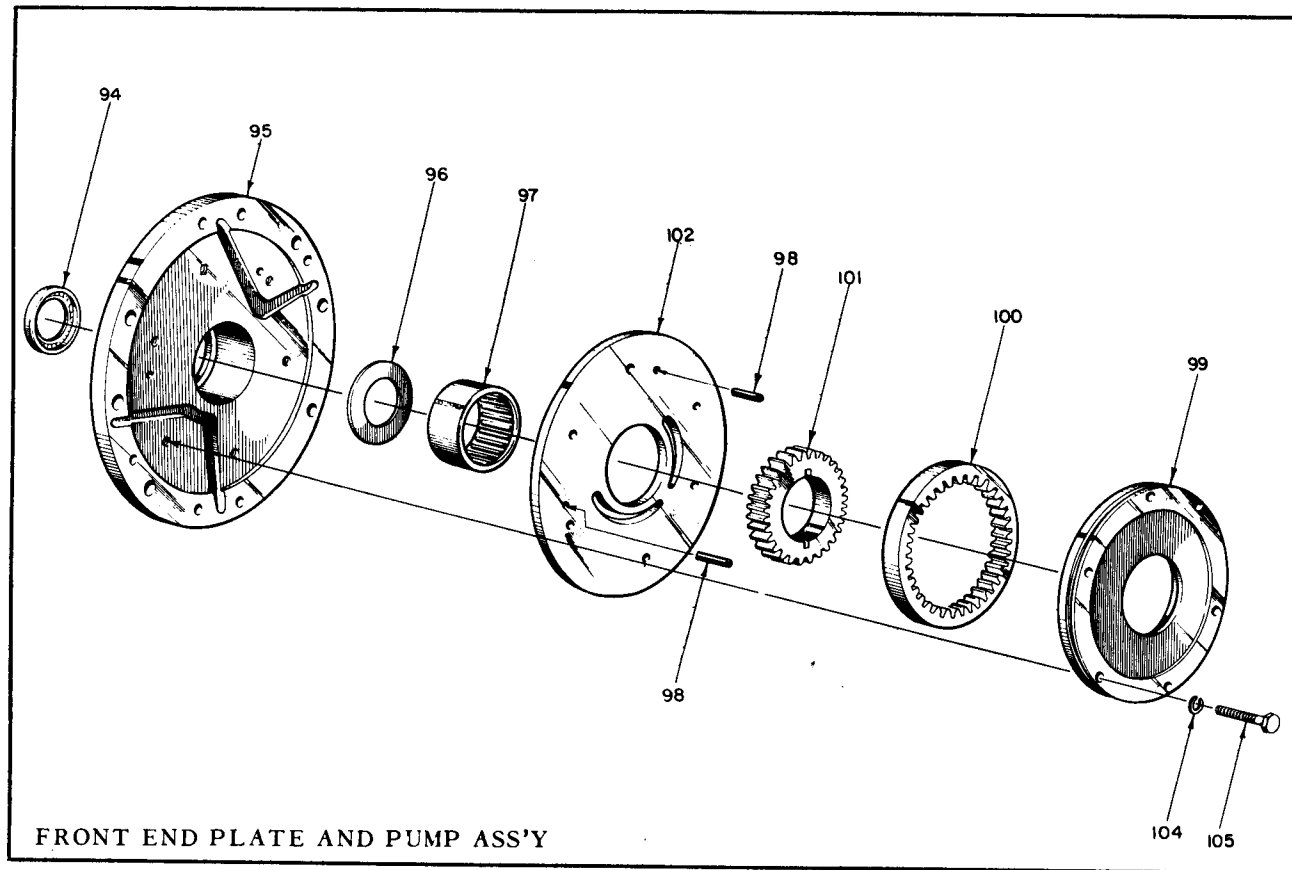
| | | |
|-------------|---|---|
| 16.01-00004 | 1 | Reverse Gear Assy. - Std. Rot. Direct -283H |
| 16.01-00005 | 1 | Reverse Gear Assy. - Opp. Rot. Direct - 283HL |
| 16.03-10006 | 1 | Rev. & Red. Gear Assy. - Std. 1.5:1 - 283H15 |
| 16.03-10007 | 1 | Rev. & Red. Gear Assy. - Opp. 1.5:1 - 283HL15 |
| 16.03-20008 | 1 | Rev. & Red. Gear Assy. - Std. 2.0:1 - 283H20 |
| 16.03-20009 | 1 | Rev. & Red. Gear Assy. - Opp. 2.0:1 - 283HL20 |
| 16.03-30008 | 1 | Rev. & Red. Gear Assy. - Std. 2.5:1 - 283H25 |
| 16.03-30009 | 1 | Rev. & Red. Gear Assy. - Opp. 2.5:1 - 283HL25 |
| 16.03-40002 | 1 | Rev. & Red. Gear Assy. - Std. 3.0:1 - 283H30 |
| 16.03-40003 | 1 | Rev. & Red. Gear Assy. - Opp. 3.0:1 - 283HL30 |

GASKET SETS

| | | |
|-------------|-------|---|
| 16.50-90022 | 1 set | HF-7 Gasket Set - Direct Drive |
| 16.50-90023 | 1 set | HF-7 Gasket Set - 1.5:1 Red. Gear |
| 16.50-90024 | 1 set | HF-7 Gasket Set - 2:1 x 2.5:1 Red. Gear |

| Code No. | Part No. | No. Req'd | Name |
|-------------|-------------|--------------|------|
|-------------|-------------|--------------|------|

REVERSE GEAR - HYDRAULIC - PARAGON HF-7

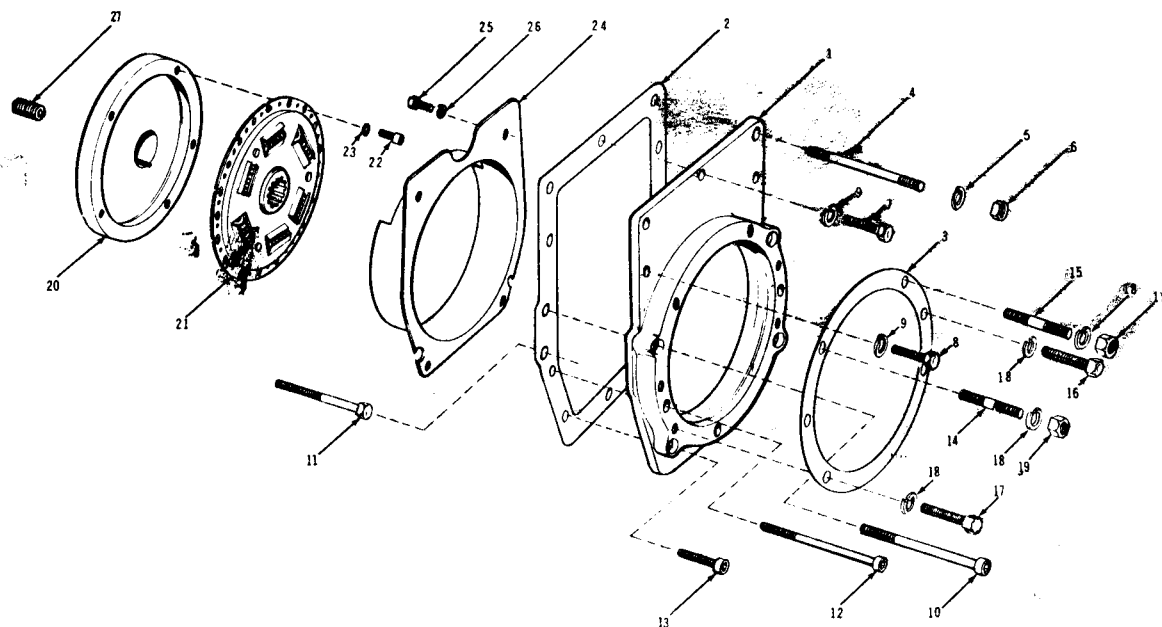


FRONT END PLATE AND PUMP ASSEMBLY

| | | | | |
|-----|-------------|---|-------------------------------------|-----------|
| 94 | 16.51-10013 | 1 | Oil Seal | (X-11791) |
| 95 | 16.04-90718 | 1 | Front End Plate | (W-11936) |
| 96 | 16.04-90622 | 1 | Front End Plate Thrust Washer | (X-11728) |
| 97 | 16.04-90623 | 1 | Roller Bearing | (X-11729) |
| 98 | 16.04-90624 | 2 | Pump Housing Pin | (X-11735) |
| 99 | 16.04-90625 | 1 | Pump Housing | (Z-11732) |
| 100 | 16.04-90439 | 1 | Outer Pump Gear | (HF-1084) |
| 101 | 16.04-90626 | 1 | Inner Pump Gear | (X-11733) |
| 102 | 16.04-90627 | 1 | Port Plate | (Z-11734) |
| 104 | 16.04-90644 | 6 | Lockwasher 5/16" | |
| 105 | 16.04-90539 | 6 | Capscrew, Hex Hd. 5/16"-18 x 1-1/2" | |

Note: When ordering 16.04-90718 Front End Plate for replacement prior to Paragon Gear Serial No. 5B4171, including 5B4281, one 16.04-90719 Reverse Gear Housing, one 16.50-00086 Front Housing Gasket and six 16.04-90720 Capscrew, Socket Head 5/16"-18 x 1/2" must also be ordered.

REVERSE GEAR - HYDRAULIC - PARAGON HF-7 (CONT'D.)



ADAPTER AND VIBRATION DAMPER

| Code No. | Part No. | No. Req'd | Name |
|-------------|-------------|--------------|------|
|-------------|-------------|--------------|------|

REVERSE GEAR - HYDRAULIC - PARAGON HF-7 (CONT'D.)

ADAPTER AND VIBRATION DAMPER

Adapter

| | | | |
|---|-------------|---|--------------------------------------|
| 1 | 16.20-06572 | 1 | Adapter - Rear Cover to Reverse Gear |
| 2 | 16.50-05962 | 1 | Gasket - Adapter to Rear Cover |
| 3 | 16.50-07366 | 1 | Gasket - Reverse Gear to Adapter |

Fastenings - Adapter to Rear Cover

| | | | |
|----|-------------|---|---|
| 4 | 16.44-02326 | 2 | Stud - Adapter thru Rear Cover into Block |
| 5 | 16.42-00004 | 2 | Lockwasher 3/8" |
| 6 | 16.36-00005 | 2 | Hex Nut 3/8"-24 |
| 7 | 16.30-00066 | 1 | Capscrew, Hex Hd. 5/16"-18 x 1" |
| 8 | 16.30-00068 | 2 | Capscrew, Hex Hd. 5/16"-18 x 1-1/8" |
| 9 | 16.04-90644 | 3 | Lockwasher 5/16" |
| 10 | 16.30-00540 | 2 | Capscrew, Socket Hd. 3/8"-16 x 4-3/4" |
| 11 | 16.30-07372 | 2 | Dowel Capscrew - Adapter thru Rear Cover into Block |
| 12 | 16.30-00539 | 3 | Capscrew, Socket Hd. 5/16" - 18 x 4-3/4" |
| 13 | 16.30-00410 | 2 | Capscrew, Socket Hd. 5/16" - 18 x 1-1/2" |

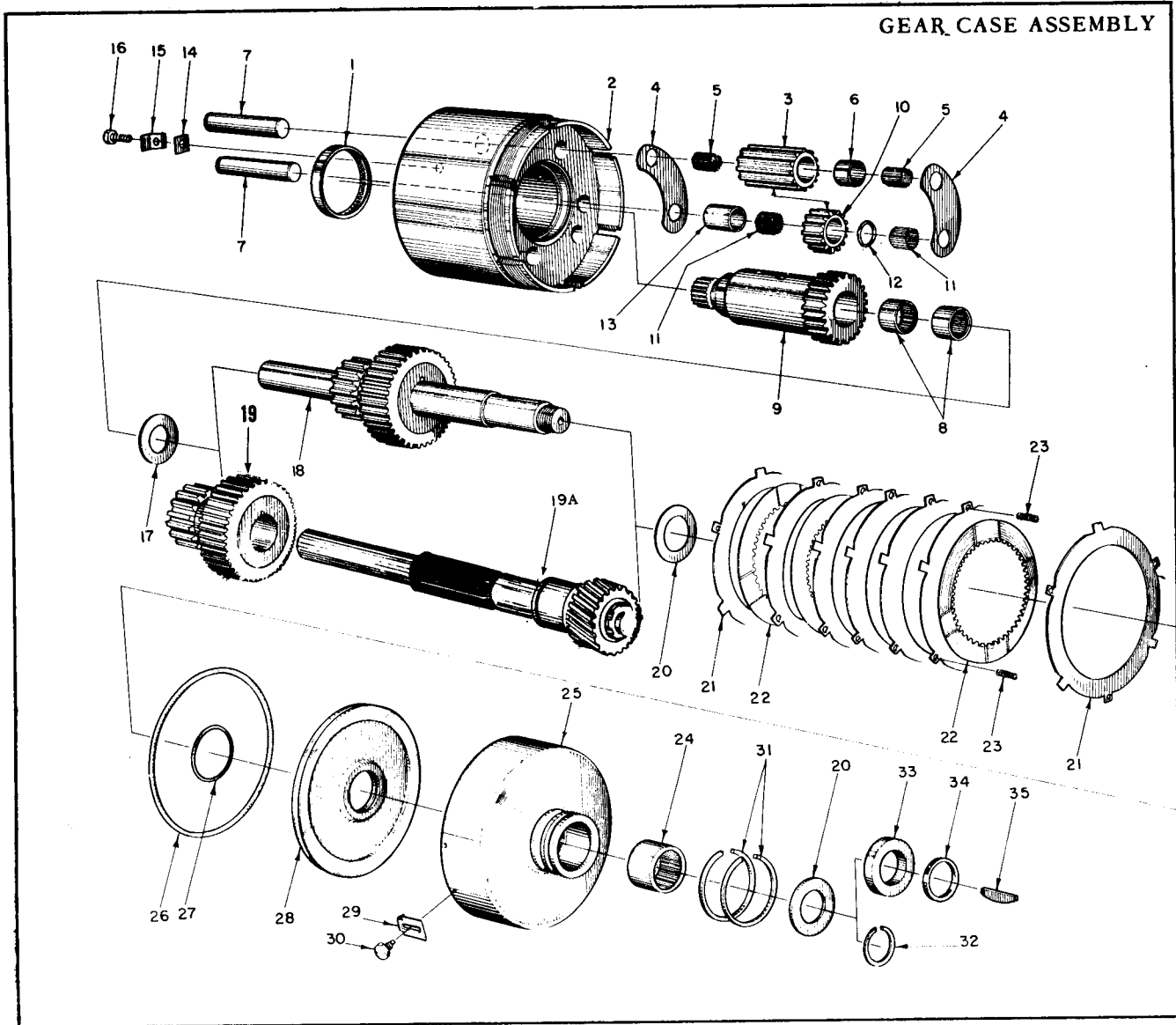
Fastenings - Reverse Gear to Adapter

| | | | |
|----|-------------|---|---|
| 14 | 16.44-07378 | 2 | Stud |
| 15 | 16.44-07380 | 1 | Stud (Fastens Oil Cooler Bracket) |
| 16 | 16.30-00212 | 1 | Capscrew, Hex Hd. 7/16" -14 x 1-7/8" (Fastens Oil Cooler Bracket) |
| | 16.43-00002 | 4 | Lockwasher 7/16" |
| 17 | 16.30-00541 | 2 | 12 Point Head Capscrew 7/16" -14 x 1-1/2" |
| 18 | 16.42-00006 | 2 | Lockwasher 7/16" (High Collar) |
| 19 | 16.36-00081 | 3 | Hex Nut 7/16" -20 |

Damper

| | | | |
|----|-------------|---|---|
| 20 | 16.71-07809 | 1 | Damper Drive Hub |
| 21 | 16.99-07414 | 1 | Damper Assembly |
| 22 | 16.30-07392 | 5 | Capscrew (damper to hub) |
| 24 | 16.70-07356 | 1 | Baffle |
| 25 | 16.30-00004 | 4 | Capscrew, Hex Hd. 1/4" -20 x 3/4" |
| 26 | 16.42-00001 | 4 | Lockwasher 1/4" |
| 27 | 16.31-00006 | 1 | Set Screw, Socket Headless 3/8" -24 x 3/4" (in end of crankshaft) |

REVERSE GEAR - HYDRAULIC - PARAGON HF-7 (CONT'D)



| Code No. | Part No. | No. Req'd. | Name |
|-------------|-------------|---------------|------|
|-------------|-------------|---------------|------|

REVERSE GEAR - HYDRAULIC - PARAGON HF-7 (Cont'd)

GEAR CASE ASSEMBLY

| | | | | |
|----|-------------|---|-------------------------------------|------------|
| 1 | 16.04-90553 | 1 | Gear Case Needle Bearing | (X-11667) |
| 2 | 16.04-90554 | 1 | Gear Case | (Z-11737) |
| 3 | 16.04-90555 | 3 | Long Pinion | (HF-1120) |
| 4 | 16.04-90556 | 6 | Thrust Pad | (X-10177) |
| 5 | 16.04-90557 | 6 | Roller Bearing (32 rollers per set) | (X-10272) |
| 6 | 16.04-90558 | 3 | Long Pinion Bearing Spacer | (HF-1113B) |
| 7 | 16.04-90559 | 6 | Pinion Shaft | (X-11740) |
| 8 | 16.04-90560 | 2 | Engine Gear Roller Bearing | (X-11750) |
| 9 | 16.04-90561 | 1 | Engine Gear | (Z-11792) |
| 10 | 16.04-90562 | 3 | Short Pinion | (HF-1120A) |
| 11 | 16.04-90563 | 6 | Roller Bearing (32 rollers per set) | (X-10273) |
| 12 | 16.04-90564 | 3 | Short Pinion Bearing Spacer | (HF-1113A) |
| 13 | 16.04-90565 | 3 | Short Pinion Spacer | (X-11832) |
| 14 | 16.04-90566 | 3 | Pinion Shaft Locking Tab | (X-11741) |
| 15 | 16.04-90567 | 3 | Case Clip | (X-11807) |
| 16 | 16.04-90568 | 3 | Capscrew, Hex Hd. 5/16" -18 x 5/8" | |
| 17 | 16.04-90569 | 1 | Engine Gear Thrust Washer | (X-11754) |
| 18 | 16.04-90570 | 1 | Tailshaft Assembly - Direct Drive | (Z-11871) |

Note: When ordering replacement tailshaft for reduction drive engines, order as indicated below:

Before Engine Serial No. 835868, it will be necessary to order the correct tailshaft reduction pinion and one No. 16.04-90758 propeller gear from the list below, and in addition, two No. 16.04-90744 thrust washers for prop. gear and tailshaft and the appropriate front ball bearing retaining ring for the particular reduction gear involved.

After Engine Serial No. 835867 order correct replacement tailshaft from list below and other parts as required.

| | | | | |
|----|-------------|---|--|-----------|
| 19 | 16.04-90758 | 1 | Propeller Gear (Used with all following Tailshaft Reduction Pinion assemblies) | (Y-12057) |
| | 16.04-90748 | 1 | Tailshaft Reduction Pinion 1.5:1 R. H. | (Z-12023) |
| | 16.04-90749 | 1 | Tailshaft Reduction Pinion 1.5:1 L. H. | (Z-12024) |
| | 16.04-90750 | 1 | Tailshaft Reduction Pinion 2:1 R. H. | (Z-12029) |
| | 16.04-90751 | 1 | Tailshaft Reduction Pinion 2:1 L. H. | (Z-12030) |
| | 16.04-90752 | 1 | Tailshaft Reduction Pinion 2.5:1 R. H. | (Z-12031) |
| | 16.04-90753 | 1 | Tailshaft Reduction Pinion 2.5:1 L. H. | (Z-12032) |
| | 16.04-90754 | 1 | Tailshaft Reduction Pinion 3:1 R. H. | (Z-12037) |
| | 16.04-90755 | 1 | Tailshaft Reduction Pinion 3:1 L. H. | (Z-12038) |

| | | | | |
|--------------|----------------|----------------|----------------|----------------|
| 283H-828043 | 283H15-828090 | 283H20-828617 | 283H25-827122 | 283H30-827122 |
| 283HL-828043 | 283HL15-828391 | 283HL20-827297 | 283HL25-827060 | 283HL30-827060 |

Following used for replacement Before above listed Engine Serial Numbers:

| | | | | |
|----|-------------|---|----------------------------|-----------|
| 20 | 16.04-90573 | 1 | Thrust Washer - Prop. Gear | (X-11590) |
|----|-------------|---|----------------------------|-----------|

Following used for replacement After above listed Engine Serial Numbers and Before Engine Serial No. 835868. ALSO used on Direct Drive Engines Only After Engine Serial No. 835867:

| | | | |
|-------------|---|----------------------------|-----------|
| 16.04-90643 | 1 | Thrust Washer - Prop. Gear | (X-11842) |
|-------------|---|----------------------------|-----------|



| Code No. | Part No. | No. Req'd. | Name |
|---|-------------|---------------|------|
| REVERSE GEAR - HYDRAULIC - PARAGON HF-7 (Cont'd.) | | | |
| GEAR CASE ASSEMBLY (Cont'd.) | | | |

Following used on Reduction Drive Engines Only After Engine Serial Number 835867:

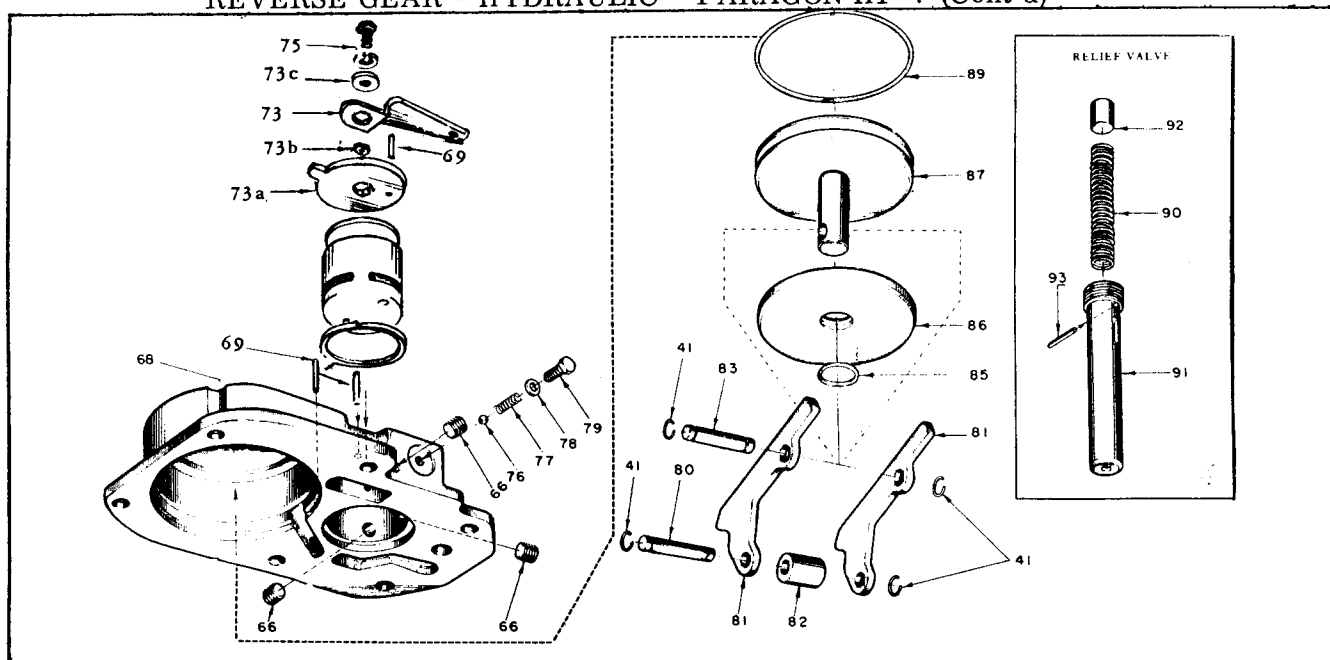
| | | | |
|-------------|---|----------------------------|-----------|
| 16.04-90744 | 1 | Thrust Washer - Prop. Gear | (X-12058) |
|-------------|---|----------------------------|-----------|

Following used on all engines unless otherwise indicated:

| | | | | |
|----|-------------|---|--|-----------|
| 21 | 16.04-90574 | 7 | Clutch Plate - Steel | (X-11758) |
| 22 | 16.04-90575 | 6 | Clutch Plate - Bronze | (X-11759) |
| 23 | 16.04-90576 | 3 | Clutch Spring | (X-11760) |
| 24 | 16.04-90577 | 1 | Screw Collar Needle Bearing | (X-11763) |
| 25 | 16.04-90578 | 1 | Screw Collar | (Z-11762) |
| 26 | 16.51-00006 | 1 | Piston "O" Ring - Outer | (X-10280) |
| 27 | 16.51-00005 | 1 | Piston "O" Ring - Inner | (X-11352) |
| 28 | 16.04-90579 | 1 | Forward Piston | (Y-11764) |
| 29 | 16.04-90396 | 2 | Screw Collar Clip | (X-11240) |
| 30 | 16.04-90395 | 2 | Lockscrew | (X-11237) |
| 31 | 16.04-90397 | 2 | Oil Distributor Seal Rings | (HF-1094) |
| 20 | 16.04-90573 | 1 | Screw Collar Thrust Washer (Used Before Engine Serial No. 835868 and Direct Drive Only After Engine Serial No. 835867) | (X-11590) |
| 32 | 16.04-90402 | 1 | Tailshaft Retaining Ring - Red. Drive Only (Used Only Before Engine Serial No. 835868) | (X-11105) |
| 33 | 16.04-90580 | 1 | Tailshaft Thrust Washer - Direct Drive Only | (X-11765) |
| 34 | 16.04-90545 | 1 | Tailshaft Seal Washer - Direct Drive Only | (X-11634) |
| 35 | 16.04-90675 | 1 | Tailshaft Key - Direct Drive Only (Woodruff #127) | |

| Code No. | Part No. | No. Req'd. | Name |
|----------|----------|------------|------|
|----------|----------|------------|------|

REVERSE GEAR - HYDRAULIC - PARAGON HF-7 (Cont'd)



COVER ASSEMBLY

| | | | | |
|----|-------------|---|--------------------------------|-----------|
| 41 | 16.04-90419 | 4 | Retaining Ring | (X-10285) |
| 66 | 16.04-90598 | 3 | Pipe Plug, Hex Socket 1/8" -27 | |
| 68 | 16.04-90600 | 1 | Cover | (Z-11766) |
| 69 | 16.04-90731 | 3 | Control Lever Pin | (X-12088) |
| 70 | 16.04-90602 | 1 | Control Valve | (X-11768) |
| 71 | 16.51-00007 | 1 | Control Valve "O" Ring | (X-11769) |
| 72 | 16.04-90604 | 1 | Control Valve Retaining Ring | (X-11770) |
| 73 | 16.04-90730 | 1 | Control Valve Lever | (X-11930) |

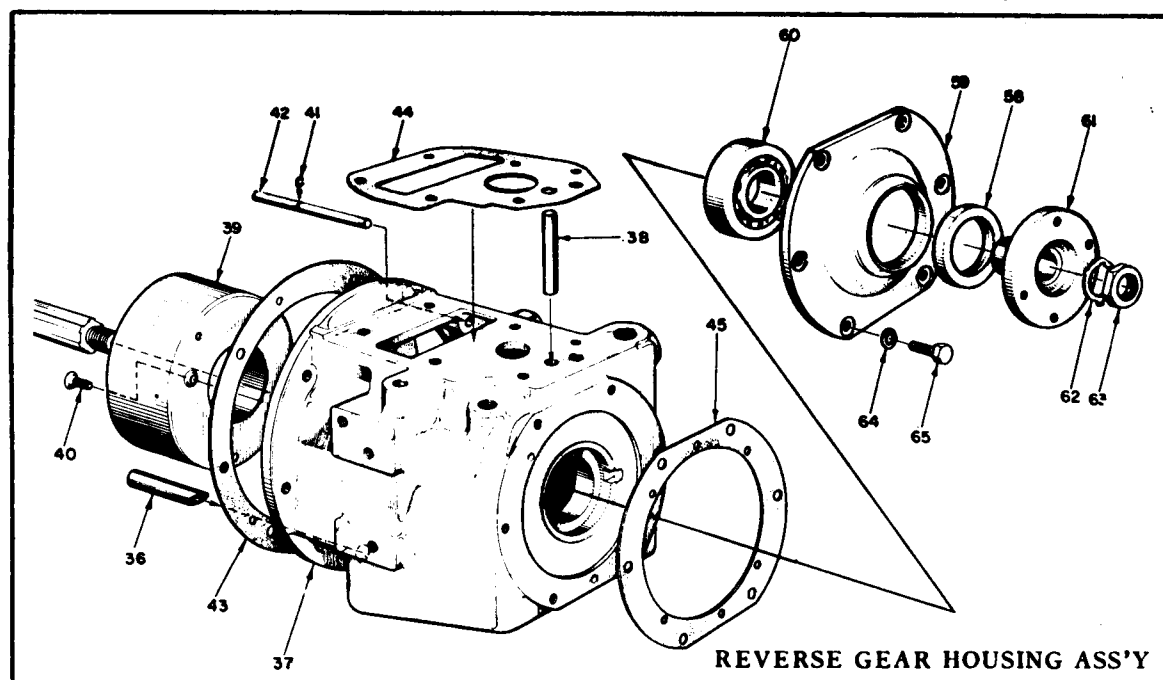
Note: Original equipment cast iron control valve levers are no longer available.

In-order-to replace the original cast iron lever it will be necessary to order a replacement stamped steel lever, code #73, plus one each of the parts identified by code numbers 69, 73a, 73b, & 73c.

| | | | | |
|-----------------------|-------------|---|--|------------|
| 73a | 16.04-90732 | 1 | Control Lever Pawl | (X-11929) |
| 73b | 16.04-90733 | 1 | Control Lever Bushing | (X-11933) |
| 73c | 16.04-90746 | 1 | Flat Washer | (X-12113) |
| 75 | 16.04-90633 | 1 | Capscrew, Hex Hd. 5/16"-18 x 3/4" W/Lockwasher | |
| 76 | 16.04-90606 | 1 | Ball Detent | (X-11773) |
| 77 | 16.04-90607 | 1 | Detent Spring | (X-11774) |
| 78 | 16.04-90467 | 1 | Seal Washer | (X-11573) |
| 79 | 16.04-90667 | 1 | Capscrew, Hex Hd. 5/16"-18 x 1/2" | |
| 80, 83 | 16.04-90609 | 2 | Roll Pin | (X-11785) |
| 81 | 16.04-90610 | 2 | Reverse Band Lever | (X-11806) |
| 82 | 16.04-90611 | 1 | Reverse Band Roller | (X-11786) |
| 85 | 16.51-00009 | 1 | Piston Backup Plate "O" Ring | (X-11779) |
| 86 | 16.04-90615 | 1 | Piston Backup Plate | (X-11778) |
| 87 | 16.04-90717 | 1 | Reverse Piston and Shaft Ass'y. | (X-11987) |
| 89 | 16.51-00008 | 1 | Reverse Piston "O" Ring | (X-11777) |
| RELIEF VALVE ASSEMBLY | | | | |
| 90 | 16.04-90410 | 1 | Relief Valve Spring | (HF-1075) |
| 91 | 16.04-90619 | 1 | Relief Valve Housing | (X-11788) |
| 92 | 16.04-90411 | 1 | Relief Valve Plug | (HF-1066C) |
| 93 | 16.04-90412 | 1 | Relief Valve Pin | (HF-1095) |

| Code No. | Part No. | No. Req'd | Name |
|----------|----------|-----------|------|
|----------|----------|-----------|------|

REVERSE GEAR - HYDRAULIC - PARAGON HF-7 (CONT'D)



REVERSE GEAR HOUSING ASS'Y

REVERSE GEAR HOUSING ASSEMBLY

| | | | | |
|----|-------------|---|----------------------|-----------|
| 36 | 16.04-90581 | 1 | Oil Suction Tube | (X-11721) |
| 37 | 16.04-90719 | 1 | Reverse Gear Housing | (R-11934) |

Note: When ordering 16.04-90719 Reverse Gear Housing for replacement prior to Paragon Gear Serial No. 5B4171, including 5B4281, one 16.04-90718 Front End Plate, one 16.50-00086 Front Housing Gasket and six 16.04-90720 Capscrews, Socket Hd. 5/16"-18 x 1/2" must also be ordered.

| | | | | |
|----|-------------|---|---|-----------|
| 38 | 16.04-90583 | 1 | Oil Distributor Tube | (X-11724) |
| 39 | 16.04-90584 | 1 | Baffle | (Z-11830) |
| 40 | 16.04-90585 | 2 | Flat Head Socket Capscrew 5/16"-18 x 3/4" | |
| 41 | 16.04-90419 | 2 | Retaining Ring (used only before Eng. #833548) | (X-10285) |
| 42 | 16.04-90586 | 2 | Reverse Band Housing Pin | (X-11723) |
| 43 | 16.50-00067 | 1 | Front Gasket (Used before Paragon Serial No. 5B4171 including 5B4281) | (Z-11736) |
| 43 | 16.50-00086 | 1 | Front Gasket (Used after Paragon Serial No. 5B4170 except 5B4281) | (Z-11937) |
| 44 | 16.50-00068 | 1 | Cover Gasket | (Y-11787) |
| 45 | 16.50-00036 | 1 | Rear Gasket | (Y-11083) |

Following used only on Direct Drive Engines

| | | | | |
|----|-------------|---|------------------------------------|------------|
| 58 | 16.51-10014 | 1 | Oil Seal | (2XE-446A) |
| 59 | 16.04-90445 | 1 | Rear Plate | (Y-11338) |
| 60 | 16.90-00017 | 1 | Ball Bearing | (X-10351) |
| 61 | 16.04-90364 | 1 | Coupling - Gear Half | (HF-1104) |
| 62 | 16.04-90272 | 1 | Lockwasher | (RDA-366) |
| 63 | 16.04-90271 | 1 | Locknut | (RDA-363) |
| 64 | 16.04-90446 | 6 | Seal Washer | (X-11353) |
| 65 | 16.04-90597 | 6 | Capscrew, Hex Hd. 3/8"-16 x 7/8" | |
| | 16.20-00002 | 1 | Shaft Coupling - Shaft Half 1" | |
| | 16.20-00004 | 1 | Shaft Coupling - Shaft Half 1-1/4" | |

Note: Shaft Couplings for other shaft sizes also available.

| | | |
|-------------|---|--|
| 16.30-00121 | 4 | Shaft Coupling Capscrew 3/8"-24 x 3/4" |
|-------------|---|--|

| | | |
|-------------|---|--------------------------------|
| 16.42-00004 | 4 | Shaft Coupling Lockwasher 3/8" |
|-------------|---|--------------------------------|

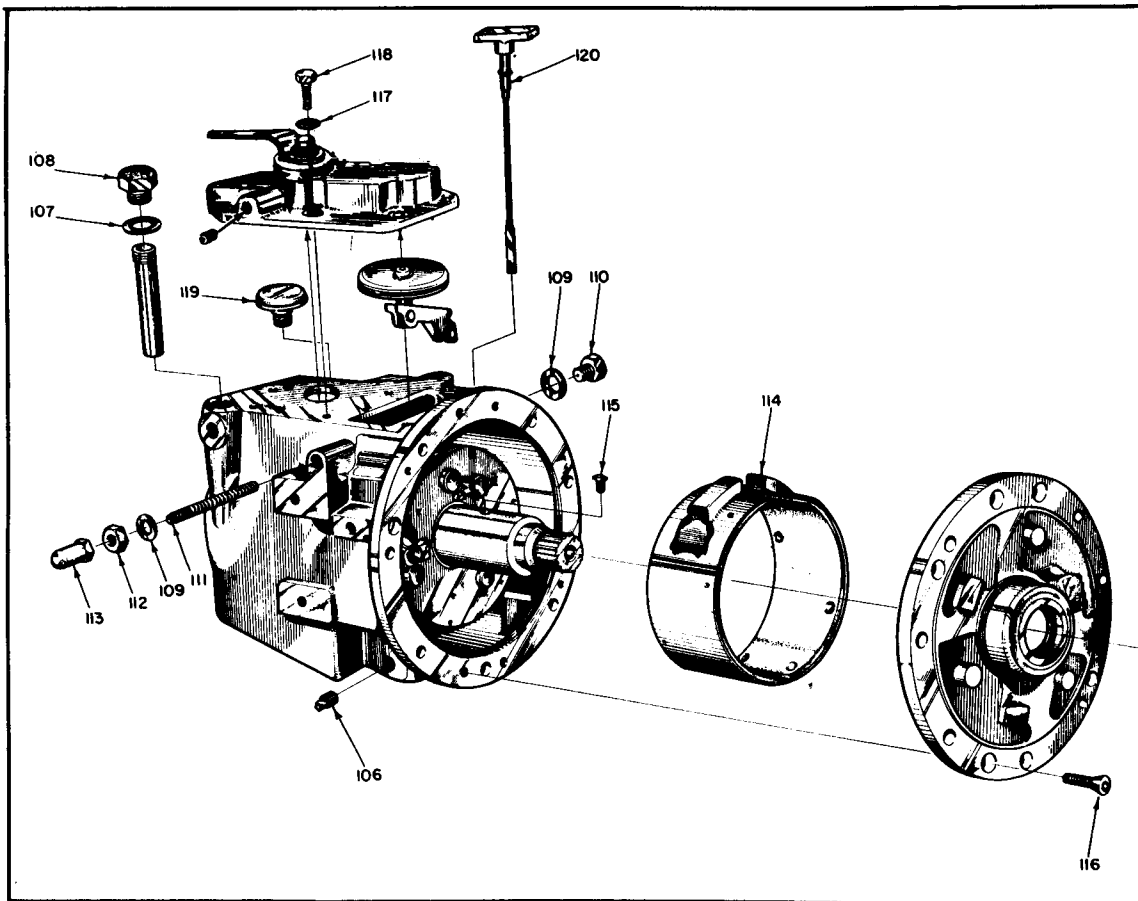
| | | |
|-------------|---|---|
| 03.29-60469 | 2 | Shaft Coupling - Setscrew 7/16"-14 x 1-1/4" |
|-------------|---|---|

Chris-Craft

WORLD'S LARGEST BUILDER OF MOTOR BOATS

| Code No | Part No. | No. Req'd | Name |
|------------|-------------|--------------|------|
|------------|-------------|--------------|------|

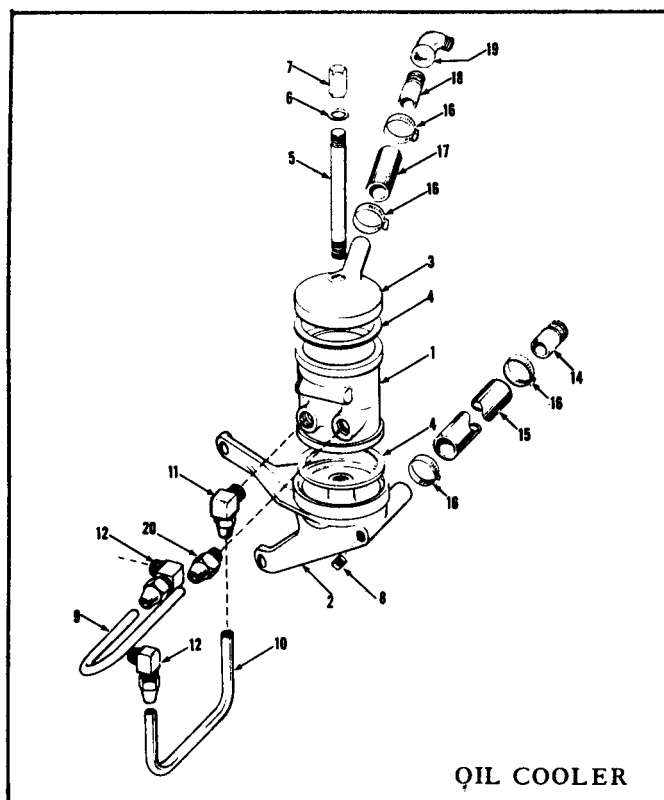
REVERSE GEAR - HYDRAULIC - PARAGON HF-7 (CONT'D)



MISCELLANEOUS PARTS

| | | | | |
|-----|--------------|---|--|------------|
| 106 | 16. 58-10155 | 1 | Pipe Plug 1/4" | |
| 107 | 16. 04-90629 | 1 | Relief Valve Seal | (X-11726) |
| 108 | 16. 04-90630 | 1 | Relief Valve Capscrew | (X-11725) |
| 109 | 16. 04-90660 | 2 | Brass Washer 1/2" | |
| 110 | 16. 04-90631 | 1 | Capscrew, Hex Hd. 1/2"-13 x 1/2" | |
| 111 | 16. 04-90442 | 1 | Reverse Band Adjusting Screw | (X-11331) |
| 112 | 16. 04-90659 | 1 | Hex Jam Nut 1/2"-13 | |
| 113 | 16. 04-90443 | 1 | Reverse Band Adjusting Screw Nut | (HJ-1133) |
| 114 | 16. 04-90632 | 1 | Reverse Band - with lining | (Y-11805) |
| | 16. 04-90110 | 1 | Lining Only | (2XE-370B) |
| 115 | 16. 04-90388 | 1 | Pump Drive Key | (X-11196) |
| 116 | 16. 04-90585 | 6 | Flat Head Socket Capscrew 5/16"-18 x 3/4" (Used before Paragon Serial No. 5B4171 including 5B4281) | |
| 116 | 16. 04-90720 | 6 | Socket Head Capscrew 5/16"-18 x 1/2" (Used after Paragon Serial No. 5B4170 except 5B4281) | |
| 117 | 16. 04-90446 | 6 | Seal Washer | (X-11353) |
| 118 | 16. 04-90747 | 6 | Capscrew, Hex Hd. 3/8"-16 x 3/4" Cadmium Plated | |
| 119 | 16. 04-90458 | 1 | Breather | (X-10286) |
| 120 | 16. 04-90789 | 1 | Dipstick | (X-12310) |
| | 16. 04-90790 | 1 | Dipstick Decal | (X-12312) |
| | 16. 04-90793 | 1 | Dipstick Seal | (X-11683) |
| | 16. 04-90729 | 1 | Dipstick Tube (only used after Eng. #833548) | (X-12045) |

| Code No. | Part No. | No. Req'd | Name |
|----------|----------|-----------|------|
|----------|----------|-----------|------|



REVERSE GEAR - HYDRAULIC - PARAGON HF-7 (CONT'D.)

OIL COOLER - Used to cool hydraulic gear lubricant

| | | | |
|---|-------------|---|-------------------------------|
| 1 | 16.99-06110 | 1 | Oil Cooler Body |
| 2 | 16.22-07370 | 1 | Oil Cooler Base Bracket |
| 3 | 16.22-06102 | 1 | Oil Cooler Cap |
| 4 | 16.50-03254 | 2 | Oil Cooler Gasket |
| 5 | 16.44-41770 | 1 | Oil Cooler Stud |
| 6 | 16.50-03402 | 1 | Oil Cooler Gasket |
| 7 | 16.72-16314 | 1 | Center Stud Nut 3/8"-24 Acorn |
| 8 | 16.58-10151 | 1 | Drain Plug 1/8" |

Water Hose from Water Pump Outlet to Oil Cooler

| | | | |
|----|-------------|-------|----------------------------------|
| 14 | 16.58-10134 | 1 | Hose Nipple 1/2" x 2" |
| 15 | | 1 pc. | Hose 3/4" I. D. 3 ply x 18" long |
| 16 | 24.00-00016 | 2 | Hose Clamps |

Water Hose from Oil Cooler Cap to Stb'd Exhaust Adapter

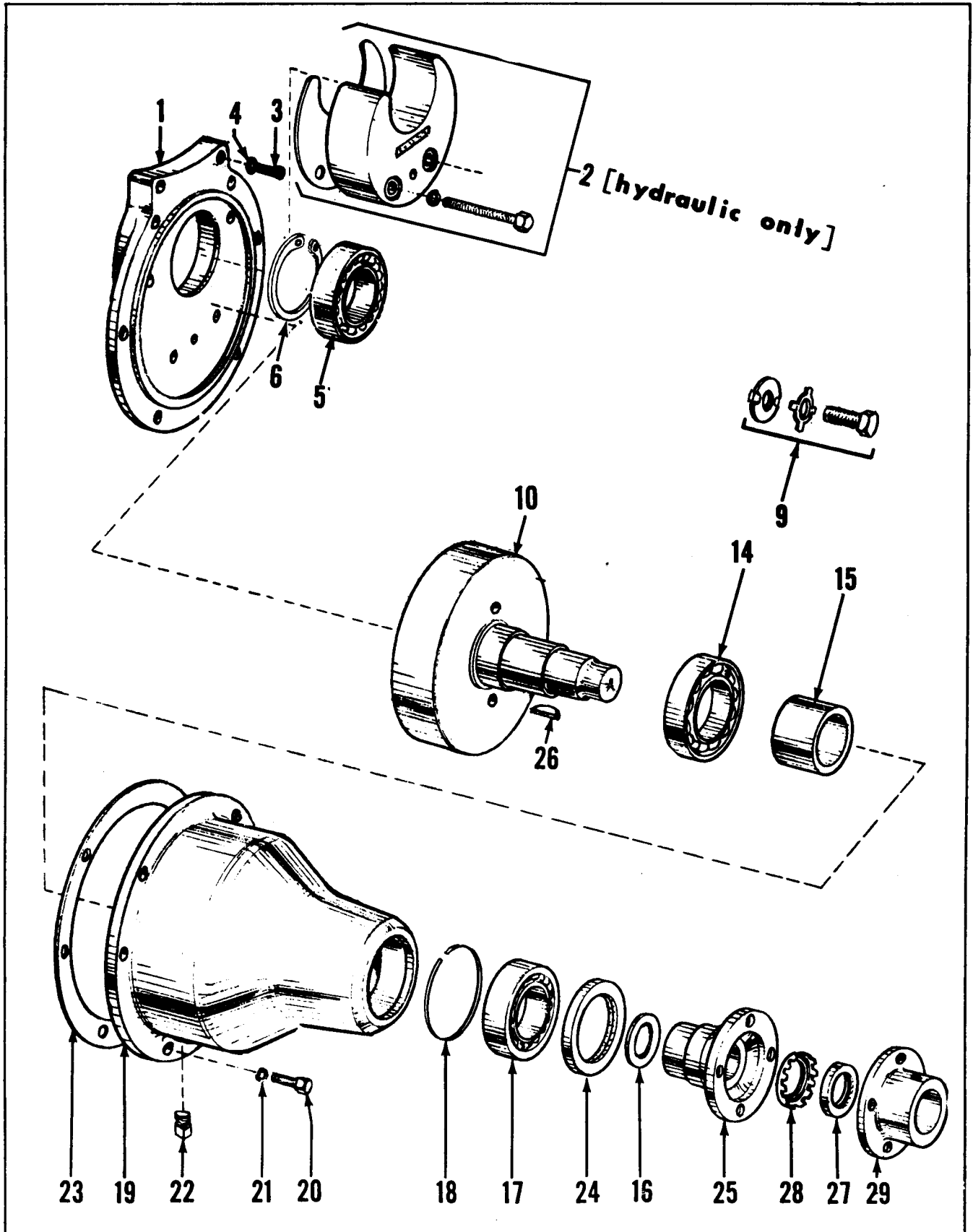
| | | | |
|----|-------------|-------|-------------------------------------|
| 17 | 20.11-05225 | 1 pc. | Hose 3/4" I. D. 3 ply x 2-3/8" long |
| 18 | 16.58-16526 | 1 | Hose Nipple 1/2" x 1-1/4" |
| 19 | 16.58-10042 | 1 | Street Elbow 1/2" - 90° |
| 16 | 24.00-00016 | 2 | Hose Clamps |

Oil Lines

| | | | |
|----|-------------|---|---|
| 11 | 16.59-10563 | 1 | Std. Elbow 90°-1/2" Tube x 1/4" MPT (at Cooler) |
| 20 | 16.59-10114 | 1 | Connector - 1/2" Tube x 1/4" MPT (at Cooler) |
| 9 | 16.57-57418 | 1 | Oil Line 1/2" (Gear to Cooler) |
| 10 | 16.57-56638 | 1 | Oil Line 1/2" (Cooler to Gear) |
| 12 | 16.59-10580 | 2 | Std. Elbow 90° - 1/2" Tube x 3/8" MPT (at Gear) |

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| Code No. | Part No. | No. Req'd. | Name |
|----------|-------------|------------|---|
| | | | 1-1/2:1 REDUCTION GEAR ASSEMBLY |
| | | | Model RA-15 |
| | 16.02-10010 | 1 | Complete Reduction Gear Assembly - RA-15 Std. Rot. for "283-15" (with Housing, ready for installation) |
| | 16.02-10009 | 1 | Complete Reduction Gear Assembly - RA-15 Opp. Rot. for "283L-15" or "283HL-15" (with Housing, ready for installation) |

*Note: If a replacement adapter plate or reduction gear housing is required for an engine prior to the below listed serial numbers, both adapter plate and reduction gear housing must be replaced using the part numbers shown in the parts list. Use the 16.50-00072 Housing Gasket with these parts.

If a replacement housing gasket is needed for engines prior to the below listed numbers use Part No. 16.50-00024 Housing Gasket with the old Adapter Plate and Housing.

Manual Reverse Gear

Std. Rot. 283-15-828508

Opp. Rot. 283L-15-827534

Hydraulic Reverse Gear

Std. Rot. 283H-15-827335

Opp. Rot. 283HL-15 827885

| | | | | |
|---|-------------|---|--|-----------|
| 1 | 16.04-90705 | 1 | Adapter Plate (see note*) | (RA15-1T) |
| | 16.50-00036 | 1 | Gasket - Plate to Reverse Gear | (Y-11083) |
| 3 | 16.30-00441 | 6 | Capscrew - Socket Head - 3/8" x 1-1/4" | |
| 4 | 16.04-90377 | 2 | Seal - Used on two upper Socket Head Capscrews | (X-11841) |
| 5 | 16.90-00025 | 1 | Ball Bearing - Forward | (X-10353) |

Following Used Before Engine Serial No. 835868.

16.04-90372 1 Pinion Gear - Std. Rot. (RA15-6D)

16.04-90379 1 Pinion Gear - Opp. Rot. (RA15-0-6D)

Following three items used as indicated.

| | | | | |
|----------|-------------|---|---|-----------|
| 38Pg. 52 | 16.04-90514 | 1 | Thrust Washer (HF-2 only) | (X-11632) |
| 33Pg. 64 | 16.04-90589 | 1 | Thrust Washer (HF-7 Before Eng. Ser. #835868) | (X-11798) |
| | 16.04-90744 | 1 | Thrust Washer (HF-7 After Eng. Ser. #835867) | (X-12058) |

Following parts used Before:

Hydraulic Gear Serial Numbers - 4C8047 Std. Rot. - 4C8117 Opp. Rot. Manual Engine Serial No. 815198. See note regarding stubshaft replacement Pgs. 47 & 53.

| | | | | |
|---|-------------|---|---|-----------|
| | 16.04-90453 | 1 | Locking Clip | (X-11619) |
| | 16.04-90454 | 1 | Washer (used at rear of pinion) | (X-11622) |
| 9 | 16.04-90508 | 1 | Capscrew 1/2"-13 x 1-1/2" (Pinion Gear Retaining) | (X-11621) |

Following parts are used starting with above Hydraulic Gear Serial Numbers and Before Engine Serial No. 835868.

| | | | | |
|--|-------------|---|--------------------------|-----------|
| | 16.04-90515 | 1 | Pinion Gear Nut | (RDOS-20) |
| | 16.47-00001 | 1 | Cotter Pin 1/8" x 1-1/2" | |

Following used After Engine Serial No. 835867:

| | | | | |
|---|-------------|---|-------------------------------------|-----------|
| 6 | 16.04-90756 | 1 | Retaining Ring (Ball Bearing Front) | (X-11857) |
|---|-------------|---|-------------------------------------|-----------|

Following parts used on all 1-1/2:1 Reduction Gear Engines.

| | | | | |
|----|-------------|---|------------------------------------|------------|
| 10 | 16.04-90707 | 1 | Internal Ring Gear - Std. Rot. | (RA20-5) |
| 10 | 16.04-90708 | 1 | Internal Ring Gear - Opp. Rot. | (RA20-0-5) |
| 14 | 16.90-00013 | 1 | Ball Bearing - Center | (X-12476) |
| 15 | 16.04-90221 | 1 | Ball Bearing Spacer | (RA20-30) |
| 16 | 16.04-90223 | 1 | Cork Gasket | (RA20-36) |
| 17 | 16.90-00026 | 1 | Ball Bearing - Rear | (X-12485) |
| 18 | 16.04-90227 | 1 | Retaining Ring (Ball Bearing Rear) | (RA20-350) |
| 19 | 16.04-90706 | 1 | Reduction Gear Housing (see note*) | (RA20-3W) |
| 20 | 16.30-00124 | 6 | Capscrew 3/8"-16 x 1" | |
| 21 | 16.42-00004 | 6 | Lockwasher 3/8" | |
| 22 | 16.58-10159 | 1 | Drain Plug 3/8" PT | |
| 23 | 16.50-00072 | 1 | Housing Gasket (see note*) | (RA20-15A) |

| Code No. | Part No. | No. Req'd. | Name |
|---|-------------|------------|---|
| 1-1/2:1 REDUCTION GEAR ASSEMBLY (Cont'd) | | | |
| Model RA-15 | | | |
| 23 | 16.50-00024 | 1 | Housing Gasket (see note *) (RA20-15) |
| 24 | 16.51-10009 | 1 | Rear Oil Seal |
| 25 | 16.04-90224 | 1 | Shaft Coupling - Gear Half (RA-20-208) |
| 26 | 16.45-00010 | 1 | Coupling Key (Woodruff #TX) |
| 27 | 16.04-90203 | 1 | Coupling Nut (X-11657) |
| 28 | 16.04-90204 | 1 | Coupling Lockwasher (X-11658) |
| 29 | 16.20-00006 | 1 | Shaft Coupling - Shaft Half - 1-1/4" |
| 29 | 16.20-00009 | 1 | Shaft Coupling - Shaft Half - 1-3/8" |
| Note: Couplings for other shaft sizes also available. | | | |
| | 16.10-00291 | 4 | Shaft Coupling Capscrew 3/8"-24 x 7/8" |
| | 16.42-00004 | 4 | Shaft Coupling Lockwasher 3/8" |
| | 03.29-60469 | 2 | Shaft Coupling Setscrew 7/16"-14 x 1-1/4" |

2:1 REDUCTION GEAR ASSEMBLY

Model RB-20

| | | |
|---|---|---|
| 16.02-20016 | 1 | Complete Reduction Gear Assembly - RB-20 Std. Rot. for "283-20" (with Housing, ready for installation) |
| 16.02-20009 | 1 | Complete Reduction Gear Assembly - RB-20 Opp. Rot. for "283L-20" (with Housing, ready for installation) |
| Note: When either of above assemblies are ordered for use on an engine equipped with Hydraulic Reverse Gear, the 16.04-90448 Crescent, with fastenings, must be ordered separately. | | |

*Note: If a replacement adapter plate or reduction gear housing is required for an engine prior to the below listed serial numbers, both adapter plate and reduction gear housing must be replaced using the part numbers shown in the Parts List. Use the 16.50-00069 Housing Gasket with these parts.

If a replacement housing gasket is needed for engines prior to the below listed numbers use Part No. 16.50-00026 Housing Gasket, with the old adapter plate and housing.

Manual Reverse Gear

Std. Rot. 283-20-826129

Opp. Rot. 283L-20-825605

Hydraulic Reverse Gear

Std. Rot. 283H-20-826344 except 826361

Opp. Rot. 283HL-20-826501

| | | | |
|---|-------------|---|--|
| 1 | 16.04-90703 | 1 | Adapter Plate (see note*) (RB-20-1W) |
| 2 | 16.04-90714 | 1 | Crescent with fastenings (Hydraulic only) (RB20-39) |
| | 16.50-00036 | 1 | Gasket - Plate to Reverse Gear (Y-11083) |
| 3 | 16.30-00441 | 6 | Capscrew - Socket Head - 3/8"-16 x 1-1/4" |
| 4 | 16.04-90377 | 2 | Seal - used on two upper Socket Head Capscrews (X-11841) |
| 5 | 16.90-00027 | 1 | Ball Bearing - Forward (X-10354) |

Following used Before Engine Serial No. 835868.

| | | |
|-------------|---|-------------------------------------|
| 16.04-90376 | 1 | Pinion Gear - Std. Rot. (RB-20-6E) |
| 16.04-90378 | 1 | Pinion Gear - Opp. Rot. (RB20-0-6E) |

Following three items used as indicated.

| | | | |
|----------|-------------|---|---|
| 38Pg. 52 | 16.04-90514 | 1 | Thrust Washer (HF-2 only) (X-11632) |
| 33Pg. 64 | 16.04-90589 | 1 | Thrust Washer (HF-7 Before Eng. Ser. #835868) (X-11798) |
| | 16.04-90744 | 1 | Thrust Washer (HF-7 After Eng. Ser. #835867) (X-12058) |

Following parts are used Before.

Hydraulic Gear Serial Numbers - 4G1728 Std. Rot. - 4G1832 Opp. Rot.

Manual Engine Serial Number 815158. See note regarding stubshaft replacement Pages 47 & 53.

| | | | |
|---|-------------|---|---|
| | 16.04-90453 | 1 | Locking Clip (X-11619) |
| | 16.04-90454 | 1 | Washer (used at rear of pinion) (X-11622) |
| 9 | 16.04-90508 | 1 | Capscrew 1/2"-13 x 1-1/2" (Pinion Gear Retaining) (X-11621) |

| Code No. | Part No. | No. Req'd. | Name |
|-------------|-------------|---------------|------|
|-------------|-------------|---------------|------|

2:1 REDUCTION GEAR ASSEMBLY (Cont'd)

Model RB-20

Following parts used starting with above Hydraulic Gear Serial Numbers and Before Engine Serial No. 835868:

| | | | |
|-------------|---|--------------------------|-----------|
| 16.04-90515 | 1 | Pinion Gear Nut | (RDDS-20) |
| 16.47-00001 | 1 | Cotter Pin 1/8" x 1-1/2" | |

Following used After Engine Serial No. 835867:

| | | | | |
|---|-------------|---|-------------------------------------|-----------|
| 6 | 16.04-90677 | 1 | Retaining Ring (Ball Bearing Front) | (X-11858) |
|---|-------------|---|-------------------------------------|-----------|

Following parts are used on all 2:1 Reduction Gear Engines:

| | | | | |
|----|-------------|---|---|------------|
| 10 | 16.04-90686 | 1 | Internal Ring Gear - Std. Rot. | (RB20-5) |
| 10 | 16.04-90700 | 1 | Internal Ring Gear - Opp. Rot. | (RB20-0-5) |
| 14 | 16.90-00011 | 1 | Ball Bearing - Center | (X-12478) |
| 15 | 16.04-90247 | 1 | Ball Bearing Spacer | (RB20-30) |
| 16 | 16.04-90249 | 1 | Cork Gasket | (RB20-36) |
| 17 | 16.90-00028 | 1 | Ball Bearing - Rear | (X-12486) |
| 18 | 16.04-90320 | 1 | Retaining Ring (Ball Bearing Rear) | (RDD-350) |
| 19 | 16.04-90656 | 1 | Reduction Gear Housing (see note*) | (RB20-3M) |
| 20 | 16.30-00128 | 6 | Capscrew 3/8"-16 x 1-1/8" | |
| 21 | 16.42-00004 | 6 | Lockwasher 3/8" | |
| 22 | 16.58-10159 | 1 | Drain Plug 3/8" | |
| 23 | 16.50-00069 | 1 | Housing Gasket (see note*) | (RB20-15A) |
| 23 | 16.50-00026 | 1 | Housing Gasket (see note*) | (RB20-15) |
| 24 | 16.51-10008 | 1 | Rear Oil Seal | |
| 25 | 16.04-90250 | 1 | Shaft Coupling - Gear Half | (RB20-208) |
| 26 | 16.45-00012 | 1 | Coupling Key (Woodruff #T) | |
| 27 | 16.04-90231 | 1 | Coupling Nut | (X-11659) |
| 28 | 16.04-90232 | 1 | Coupling Lockwasher | (X-11660) |
| 29 | 16.20-00038 | 1 | Shaft Coupling - Shaft Half - 1-1/4" | |
| 29 | 16.20-00039 | 1 | Shaft Coupling - Shaft Half - 1-3/8" | |
| | | | Note: Couplings for other shaft sizes also available. | |
| | 16.04-90319 | 4 | Shaft Coupling Capscrew 3/8"-24 x 1-3/8" | |
| | 16.36-00005 | 4 | Shaft Coupling Nut 3/8" -24 | |
| | 16.42-00004 | 4 | Shaft Coupling Lockwasher 3/8" | |
| | 03.29-60469 | 2 | Shaft Coupling Setscrew 7/16"-14 x 1-1/4" | |

2-1/2:1 REDUCTION GEAR ASSEMBLY

Model RB-25

| | | |
|-------------|---|--|
| 16.02-30008 | 1 | Complete Reduction Gear Assembly - RB-25 Std. Rot. |
| | | for "283-25" (with Housing, ready for installation) |
| 16.02-30007 | 1 | Complete Reduction Gear Assembly - RB-25 Opp. Rot. |
| | | for "283L-25" (with Housing, ready for installation) |

Note: When either of above assemblies are ordered for use on an engine equipped with Hydraulic Reverse Gear the 16.04-90450 Crescent, with fastenings, must be ordered separately.

Note: If a replacement adapter plate or reduction gear housing is required for an engine prior to below listed serial numbers, both adapter plate and reduction gear housing must be replaced using the part numbers shown in the Parts List. Use the 16.50-00069 Housing Gasket with these parts.

If a replacement housing gasket is needed for engines prior to the below listed numbers use Part No. 16.50-00026 Housing Gasket with the old adapter plate and housing.

Manual Reverse Gear

Std. Rot. 283-25-827470

Opp. Rot. 283L-25-827502

Hydraulic Reverse Gear

Std. Rot. 283H-25-827011

Opp. Rot. 283HL-25-827057

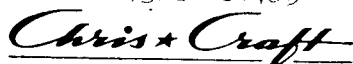
| | | | | |
|---|-------------|---|---------------------------|-----------|
| 1 | 16.04-90704 | 1 | Adapter Plate (see note*) | (RB25-1M) |
|---|-------------|---|---------------------------|-----------|

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| Code No. | Part No. | No. Req'd. | Name | |
|---|-------------|------------|---|-------------|
| | | | 2-1/2:1 REDUCTION GEAR ASSEMBLY (Cont'd) | |
| | | | Model RB-25 | |
| 2 | 16.04-90715 | 1 | Crescent with fastenings (Hydraulic only) | (RB25-39F) |
| | 16.50-00026 | 1 | Gasket - Plate to Reverse Gear | (Y-11083) |
| 3 | 16.30-00443 | 6 | Capscrew - Socket Head - 3/8"-16 x 1-1/2" | |
| 4 | 16.04-90377 | 2 | Seal - used on two upper Socket Head capscrew | (X-11841) |
| 5 | 16.90-00011 | 1 | Ball Bearing - Forward | (X-10355) |
| Following used Before Engine Serial No. 835868: | | | | |
| | 16.04-90451 | 1 | Pinion Gear - Std. Rot. | (RB25-6D) |
| | 16.04-90452 | 1 | Pinion Gear - Opp. Rot. | (RB25-0-6D) |
| Following three items used as indicated: | | | | |
| 32Pg. 52 | 16.04-90514 | 1 | Thrust Washer (HF-2 only) | (X-11632) |
| 32Pg. 64 | 16.04-90589 | 1 | Thrust Washer (HF-7 Before Eng. Ser. #835868) | (X-11798) |
| | 16.04-90744 | 1 | Thrust Washer (HF-7 After Eng. Ser. #835867) | (X-12058) |
| Following parts are used Before: | | | | |
| Hydraulic Gear Serial Numbers - 4G3664 Std. Rot. - 4G3828 Opp. Rot. | | | | |
| Manual Engine Serial Number 815158. See note regarding stubshaft replacement Pages 47 & 53. | | | | |
| | 16.04-90453 | 1 | Locking Clip | (X-11619) |
| | 16.04-90454 | 1 | Washer (used at rear of pinion) | (X-11622) |
| 9 | 16.04-90508 | 1 | Capscrew 1/2"-13 x 1-1/2" (Pinion Gear Retaining) | (X-11621) |
| Following parts are used starting with above Hydraulic Gear Serial Numbers and Before Engine Serial No. 835868: | | | | |
| | 16.04-90515 | 1 | Pinion Gear Nut | (RDDS-20) |
| | 16.47-00001 | 1 | Cotter Pin 1/8" x 1-1/2" | |
| Following used After Engine Serial No. 835867: | | | | |
| 6 | 16.04-90674 | 1 | Retaining Ring (Ball Bearing Front) | (X-11859) |
| Following parts are used on all 2-1/2:1 Reduction Gear Engines: | | | | |
| 10 | 16.04-90686 | 1 | Internal Ring Gear - Std. Rot. | (RB20-5) |
| 10 | 16.04-90700 | 1 | Internal Ring Gear - Opp. Rot. | (RB20-0-5) |
| 14 | 16.90-00011 | 1 | Ball Bearing - Center | (X-12478) |
| 15 | 16.04-90247 | 1 | Ball Bearing Spacer | (RB20-30) |
| 16 | 16.04-90249 | 1 | Cork Gasket | (RB20-36) |
| 17 | 16.90-00028 | 1 | Ball Bearing - Rear | (X-12486) |
| 18 | 16.04-90320 | 1 | Retaining Ring (Ball Bearing Rear) | (RDD-350) |
| 19 | 16.04-90656 | 1 | Reduction Gear Housing (see note*) | (RB20-3M) |
| 20 | 16.36-00128 | 6 | Capscrew 3/8"-16 x 1-1/8" | |
| 21 | 16.42-00004 | 4 | Lockwasher 3/8" | |
| | 16.04-90446 | 2 | Seal Washer (used in top two holes) | (X-11353) |
| 22 | 16.58-10159 | 1 | Drain Plug 3/8" | |
| 23 | 16.50-00069 | 1 | Housing Gasket (see note*) | (RB20-15A) |
| 23 | 16.50-00026 | 1 | Housing Gasket (see note*) | (RB20-15) |
| 24 | 16.51-10008 | 1 | Rear Oil Seal | |
| 25 | 16.04-90250 | 1 | Shaft Coupling - Gear Half | (RB20-15) |
| 26 | 16.45-00012 | 1 | Coupling Key (Woodruff #T) | |
| 27 | 16.04-90231 | 1 | Coupling Nut | (X-11659) |
| 28 | 16.04-90232 | 1 | Coupling Lockwasher | (X-11660) |
| 29 | 16.20-00039 | 1 | Shaft Coupling - Shaft Half - 1-3/8" | |
| 29 | 16.20-00025 | 1 | Shaft Coupling - Shaft Half - 1-1/2" | |
| Note: Couplings for other shaft sizes also available. | | | | |
| | 16.04-90319 | 4 | Shaft Coupling Capscrew 3/8"-24 x 1-3/8" | |
| | 16.36-00005 | 4 | Shaft Coupling Nut 3/8" -24 | |
| | 16.42-00004 | 4 | Shaft Coupling Lockwasher 3/8" | |
| | 03.29-60469 | 2 | Shaft Coupling Setscrew 7/16"-14 x 1-1/4" | |

| Code No. | Part No. | No. Req'd. | Name | |
|---|-------------|------------|--|-------------|
| | | | 3:1 REDUCTION GEAR ASSEMBLY | |
| | | | Model RC-30 | |
| | 16.02-40004 | 1 | Complete Reduction Gear Assembly - RC-30 Std. Rot. for "283-R30" (with Housing, ready for installation) | |
| | 16.02-40003 | 1 | Complete Reduction Gear Assembly - RC-30 Opp. Rot. for "283-RO30" (with Housing, ready for installation) | |
| | | | Note: When either of above assemblies are ordered for use on an engine equipped with Hydraulic Reverse Gear, the Crescent, with fastenings, must be ordered separately | |
| 1 | 16.04-90593 | 1 | Adapter Plate | (RC-30-1T) |
| 2 | | 1 | Crescent with fastenings (Hydraulic only) | (RC-25-39G) |
| | 16.50-00036 | 1 | Gasket - Plate to Reverse Gear | (Y-11083) |
| 3 | 16.30-00443 | 6 | Capscrew - Socket Head - 3/8"-16 x 1-1/2" | |
| 4 | 16.04-90377 | 2 | Seal - used on two upper Socket Head Capscrews | (X-1184) |
| 5 | 16.90-00030 | 1 | Ball Bearing - Forward | (X-12479) |
| Following used Before Engine Serial No. 835868: | | | | |
| | 16.04-90590 | 1 | Pinion Gear - Std. Rot. | (RC-30-6F) |
| | 16.04-90591 | 1 | Pinion Gear - Opp. Rot. | (RC30-0-6F) |
| Following three items used as indicated: | | | | |
| 38Pg. 52 | 16.04-90514 | 1 | Thrust Washer (HF-2 only) | (X-11632) |
| 33Pg. 64 | 16.04-90589 | 1 | Thrust Washer (HF-7 Before Eng. Ser. #835868) | (X-11798) |
| | 16.04-90744 | 1 | Thrust Washer (HF-7 After Eng. Ser. #835867) | (X-12058) |
| Following used Before Engine Serial No. 835868: | | | | |
| | 16.04-90515 | 1 | Pinion Gear Nut | (RDDS-20) |
| | 16.47-00001 | 1 | Cotter Pin 1/8" x 1-1/2" | |
| Following used After Engine Serial No. 835867: | | | | |
| 3 | 16.04-90757 | 1 | Retaining Ring (Ball Bearing Front) | (X-11860) |
| Following parts are used on all 3:1 Reduction Gear Engines: | | | | |
| 10 | 16.04-90257 | 1 | Internal Ring Gear - Std. Rot. | (RC20-28A) |
| 10 | 16.04-90260 | 1 | Internal Ring Gear - Opp. Rot. | (RC20-0-28) |
| 11 | 16.04-90261 | 1 | Ring Gear Flange & Shaft | (RC20-29) |
| 12 | 16.04-90248 | 8 | Ring Gear Capscrew 3/8"-24 x 1" | |
| 13 | 16.42-90712 | 8 | Lockwasher 3/8" | |
| 14 | 16.90-00008 | 1 | Ball Bearing - Center | (X-10335) |
| 15 | 16.04-90262 | 1 | Ball Bearing Spacer | (RC20-30) |
| 16 | 16.04-90258 | 1 | Cork Gasket | (RC20-36) |
| 17 | 16.90-00009 | 1 | Ball Bearing - Rear | (X-12487) |
| 18 | 16.04-90321 | 1 | Retaining Ring (Ball Bearing Rear) | (RDD-350C) |
| 19 | 16.04-90687 | 1 | Reduction Gear Housing | (RC20-3L) |
| 20 | 16.04-90508 | 6 | Capscrew - 1/2"-13 x 1-1/2" | |
| 21 | 16.42-00008 | 6 | Lockwasher - 1/2" | |
| 22 | 16.58-10159 | 1 | Drain Plug 3/8" | |
| 23 | 16.50-00070 | 1 | Housing Gasket | (RC20-15A) |
| 24 | 16.51-10007 | 1 | Rear Oil Seal | (RC-446) |
| 25 | 16.04-90263 | 1 | Shaft Coupling - Gear Half | (RC20-208) |
| 26 | 16.45-00013 | 1 | Coupling Key (Woodruff #31) | |
| 27 | 16.04-90252 | 1 | Coupling Nut | (X-11661) |
| 28 | 16.04-90253 | 1 | Coupling Lockwasher | (X-11660) |
| 29 | 16.20-00013 | 1 | Shaft Coupling - Shaft Half - 1-3/8" | |
| 29 | 16.20-00036 | 1 | Shaft Coupling - Shaft Half - 1-1/2" | |
| | | | Note: Couplings for other shaft sizes also available. | |
| | 16.04-90256 | 6 | Shaft Coupling Capscrew 7/16"-20 x 1-1/2" | |
| | 16.36-00081 | 6 | Shaft Coupling Nut 7/16" -20 | |
| | 16.42-00006 | 6 | Shaft Coupling Lockwasher 7/16" | |
| | 03.29-60469 | 2 | Shaft Coupling Setscrew 7/16"-14 x 1-1/4" | |



WORLD'S LARGEST BUILDER OF MOTOR BOATS

| Code No. | Part No. | No. Req'd | Name |
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POSITIVE DRIVE (BOBTAIL) ENGINE 283-BO

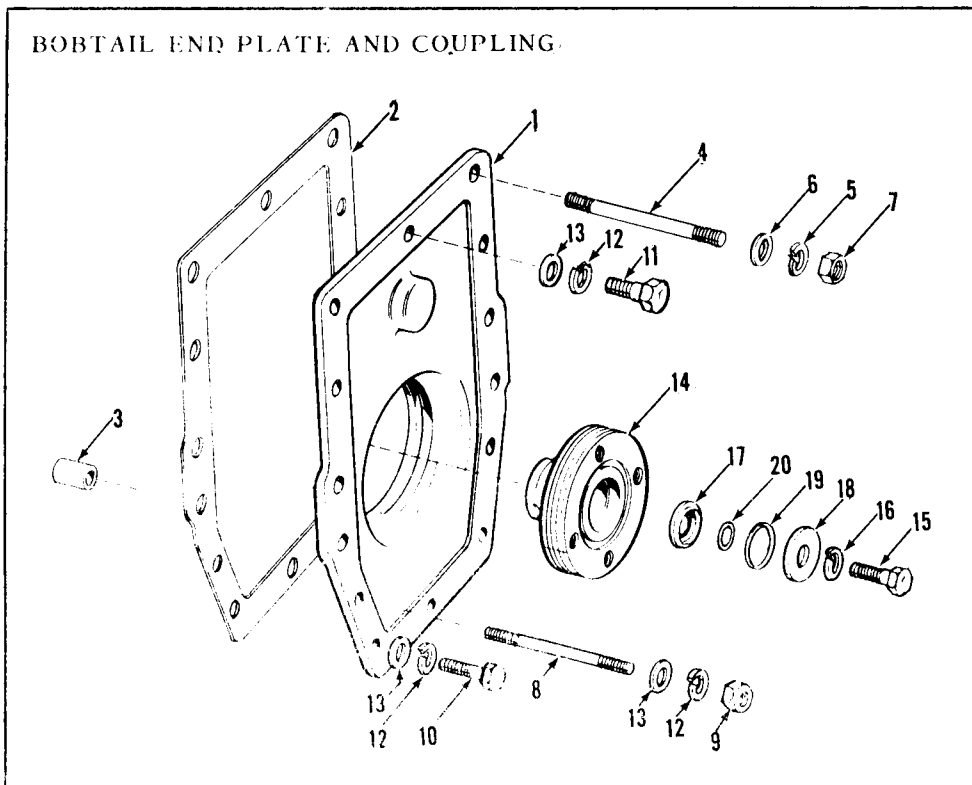
REAR COVER END PLATE & FASTENINGS

| | | | |
|----|-------------|---|--|
| 1 | 16.21-06674 | 1 | Rear Cover End Plate |
| 2 | 16.50-05962 | 1 | Rear Cover End Plate Gasket |
| 3 | 16.57-01777 | 2 | Alignment Dowel |
| 4 | 16.44-02326 | 6 | Stud 3/8" - End Plate to Block |
| 5 | 16.42-00004 | 6 | Lockwasher 3/8" |
| 6 | 16.41-00006 | 6 | Flat Washer 25/64" x 11/16" x 1/16" |
| 7 | 16.36-00005 | 6 | Nut 3/8" - 24 |
| 8 | 16.44-06032 | 3 | Stud 5/16" - End Plate to Oil Pan |
| 9 | 16.39-00009 | 3 | Nut 5/16" - 24 |
| 10 | 16.30-00068 | 4 | Capscrew 5/16" - 18 x 1-1/8" (End Plate to Rear Cover) |
| 11 | 16.30-00066 | 1 | Capscrew 5/16" - 18 x 1" |
| 12 | 03.54-60005 | 8 | Lockwasher 5/16" |
| 13 | 16.41-00004 | 8 | Flat Washer 21/64" x 9/16" x 1/16" |

CRANKSHAFT COUPLING

| | | | | |
|----|-------------|---|---------------------------------|-----------|
| 14 | 16.20-07214 | 1 | Crankshaft Coupling - Opp. Rot. | |
| 15 | 16.30-07424 | 1 | Coupling Retaining Capscrew | |
| 16 | 16.42-00004 | 1 | Lockwasher 3/8" | |
| 17 | 16.04-90384 | 1 | Coupling Seal Washer | (X-11480) |
| 18 | 16.04-90383 | 1 | Coupling Washer | (X-11479) |
| 19 | 16.04-90385 | 1 | "O" Ring (Outer) | (X-11481) |
| 20 | 16.04-90386 | 1 | "O" Ring (Inner) | (X-11482) |

BOBTAIL END PLATE AND COUPLING.



| Code No. | Part No. | No. Req'd | Name |
|-------------|-------------|--------------|------|
|-------------|-------------|--------------|------|

REVERSE GEAR - HYDRAULIC - PARAGON P-300

USED ON ALL MODEL 283 ENGINES AFTER THE FOLLOWING
SERIAL NUMBERS

| | |
|------------------|--------|
| 283 Direct Drive | 840837 |
| 283-15 | 840823 |
| 283-20 | 841111 |
| 283-25 | 841023 |
| 283-30 | 841111 |

| | | |
|-------------|---|--|
| 16.01-00008 | 1 | Reverse Gear Assembly - RH Rot. Direct (P-31R) |
| 16.01-00009 | 1 | Reverse Gear Assembly - LH Rot. Direct (P-31L) |
| 16.03-10010 | 1 | Rev. & Red. Gear Assy - RH Rot. 1.5:1 (P-32AR) |
| 16.03-10011 | 1 | Rev. & Red. Gear Assy - LH Rot. 1.5:1 (P-32AL) |
| 16.03-20012 | 1 | Rev. & Red. Gear Assy - RH Rot. 2.0:1 (P-33AR) |
| 16.03-20013 | 1 | Rev. & Red. Gear Assy - LH Rot. 2.0:1 (P-33AL) |
| 16.03-30012 | 1 | Rev. & Red. Gear Assy - RH Rot. 2.5:1 (P-34BR) |
| 16.03-30013 | 1 | Rev. & Red. Gear Assy - LH Rot. 2.5:1 (P-34BL) |
| 16.03-40006 | 1 | Rev. & Red. Gear Assy - RH Rot. 3.0:1 (P-35BR) |
| 16.03-40007 | 1 | Rev. & Red. Gear Assy - LH Rot. 3.0:1 (P-35BL) |

GASKET SETS

NOTE: GASKET SETS INCLUDES ALL GASKETS, SEALS & "O" RINGS

| | | |
|-------------|---|---|
| 16.50-90091 | 1 | Gasket Set - P31 (Direct Drive) (Z-7601) |
| 16.50-90093 | 1 | Gasket Set - P32A, P33A, P34B, P35B (All Reductions) (Z-7603) |

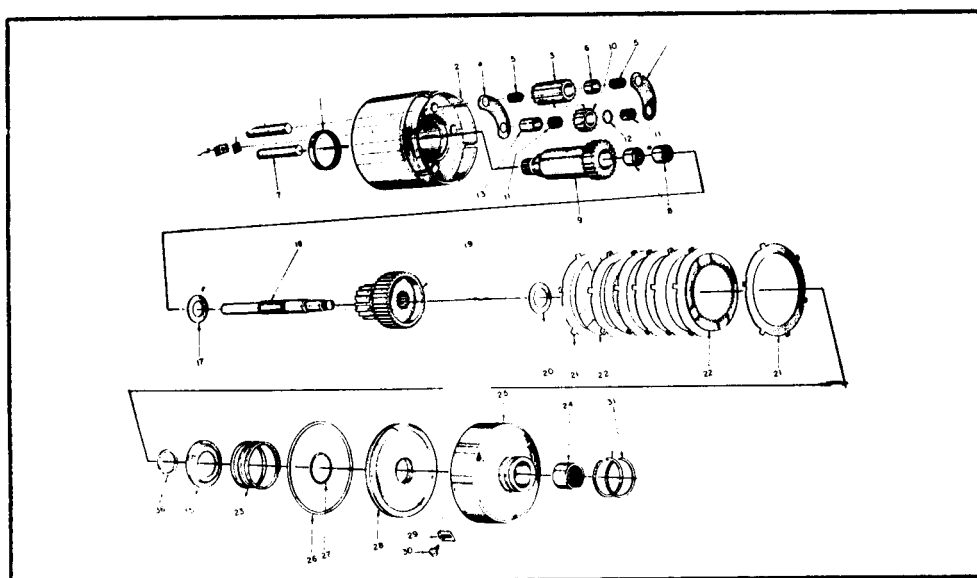
SHAFT HALF COUPLINGS

| | | |
|-------------|---|---|
| 16.20-00054 | 1 | Shaft Coupling - 1" bore, 4" face dia. , 2-5/8" Pilot dia. |
| 16.20-00055 | 1 | Shaft Coupling - 1-1/4" bore, 4" face dia. , 2-5/8" Pilot diameter. |
| 16.20-00056 | 1 | Shaft Coupling - 1-3/8" bore, 4" face dia. , 2-5/8" Pilot diameter. |
| 16.20-00057 | 1 | Shaft Coupling - 1-1/2" Bore, 4" face dia. , 2-5/8" Pilot diameter. |

| Code No. | Part No. | No. Req'd | Name |
|-------------|-------------|--------------|------|
|-------------|-------------|--------------|------|

REVERSE GEAR - HYDRAULIC - PARAGON P-300GEAR CASE ASSEMBLY

| | | | | |
|----|-------------|---|------------------------------|------------|
| 1 | 16.04-90553 | 1 | Gear Case - Needle Bearing | (X-11667) |
| 2 | 16.04-90554 | 1 | Gear Case | (Z-11737) |
| 3 | 16.04-90555 | 3 | Long Pinion | (HF-1120) |
| 4 | 16.04-90556 | 6 | Pinion Thrust Pad | (X-10177) |
| 5 | 16.04-90557 | 6 | Roller Bearing | (X-10272) |
| 6 | 16.04-90558 | 3 | Long Pinion Bearing Spacer | (HF-1113B) |
| 7 | 16.04-90559 | 6 | Pinion Shaft | (X-11740) |
| 8 | 16.04-90560 | 2 | Engine Gear Roller Bearing | (X-11750) |
| 9 | 16.04-90561 | 1 | Engine Gear | (Z-11792) |
| 10 | 16.04-90562 | 3 | Short Pinion | (HF-1120A) |
| 11 | 16.04-90563 | 6 | Roller Bearing | (X-10273) |
| 12 | 16.04-90564 | 3 | Short Pinion Bearing Spacer | (HF-1113A) |
| 13 | 16.04-90565 | 3 | Short Pinion Spacer | (X-11832) |
| 14 | 16.04-90566 | 3 | Pinion Shaft Locking Tab | (X-11741) |
| 15 | 16.04-90567 | 3 | Case Clip | (X-11807) |
| 16 | 16.04-90568 | 3 | Capscrew - 5/16" - 18 x 5/8" | |
| 17 | 16.04-90569 | 1 | Engine Gear Thrust Washer | (X-11754) |
| 18 | 16.04-90856 | 1 | Direct Drive Tailshaft | (Z-12331) |



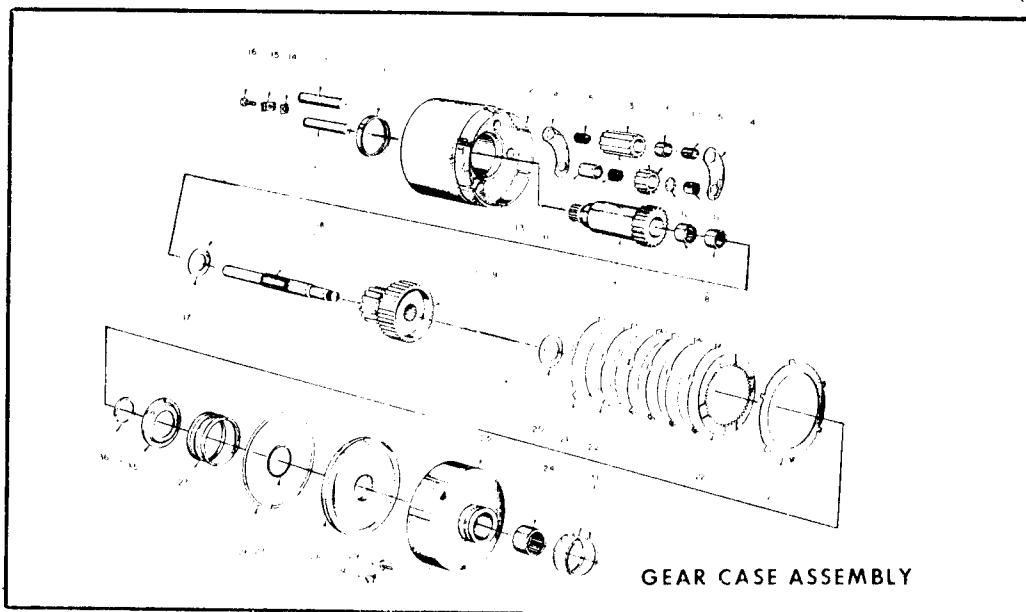
| Code No. | Part No. | No. Req'd | Name |
|-------------|-------------|--------------|------|
|-------------|-------------|--------------|------|

REVERSE GEAR - HYDRAULIC - PARAGON P-300

NOTE: When ordering replacement tailshaft for direct drive P-300 gears before engine serial numbers listed below, it will be necessary to order one (1) 16.04-90856 Tailshaft (Z-12331) and one (1) 16.04-90842 Propeller Gear (Y-12324).

283H-840997, Excluding 840959 & 840961
283HL-841052

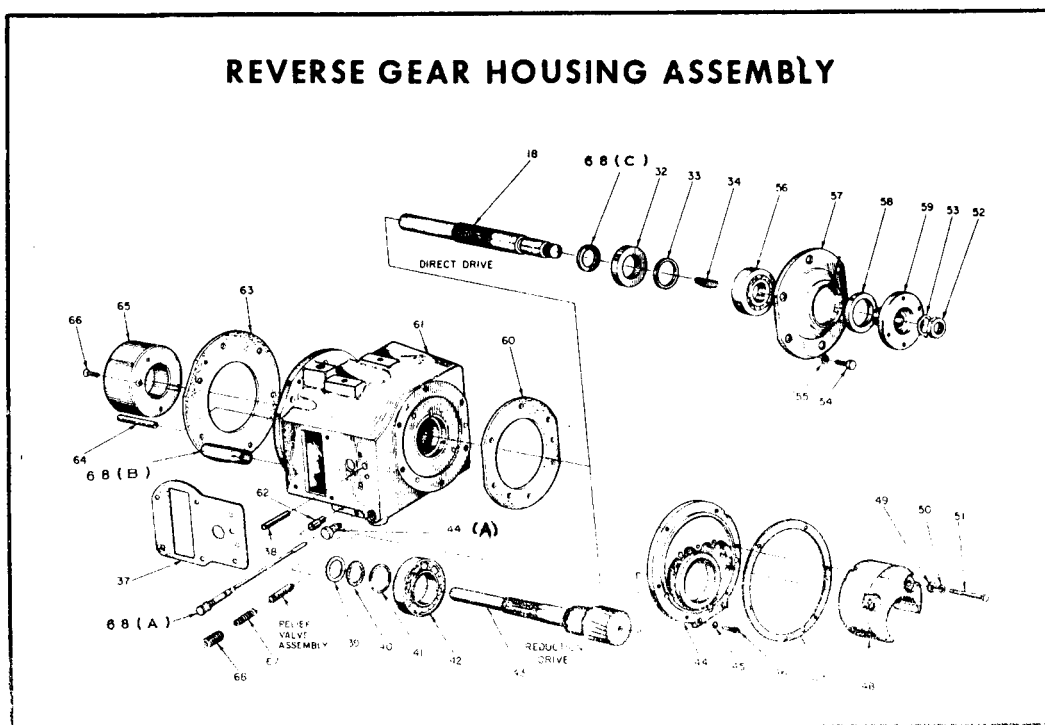
| | | | | |
|----|-------------|---|---|-----------|
| 19 | 16.04-90842 | 1 | Propeller Gear - Direct Drive & Reduction | (Y-12324) |
| 20 | 16.04-90943 | 1 | Propeller Gear Thrust Washer - DD & Red. | (X-12606) |
| 21 | 16.04-90574 | 7 | Steel Clutch Plate | (X-11758) |
| 22 | 16.04-90575 | 6 | Bronze Clutch Plate | (X-11759) |
| 23 | 16.04-90802 | 1 | Screw Collar Spring | (Y-12330) |
| 24 | 16.04-90577 | 1 | Screw Collar - Needle Bearing | (X-11763) |
| 25 | 16.04-90800 | 1 | Screw Collar | (Z-12322) |
| 26 | 16.51-00006 | 1 | Forward Piston "O" Ring - Outer | (X-10280) |
| 27 | 16.51-00005 | 1 | Forward Piston "O" Ring - Inner | (X-11352) |
| 28 | 16.04-90801 | 1 | Forward Piston | (Y-12323) |
| 29 | 16.04-90396 | 2 | Clip - Screw Collar | (X-11240) |
| 30 | 16.04-90395 | 2 | Lockwasher | (X-11237) |
| 31 | 16.04-90397 | 2 | Oil Distributor Seal Rings | (HF-1094) |
| 32 | 16.04-90580 | 1 | Tailshaft Thrust Washer - Direct Drive Only | (X-11765) |
| 33 | 16.04-90545 | 1 | Tailshaft Seal Washer - Direct Drive Only | (X-11634) |
| 34 | 16.45-00007 | 1 | Woodruff Key #127 | |
| 35 | 16.04-90803 | 1 | Spring Retainer | (X-12325) |
| 36 | 16.04-90804 | 1 | Retaining Ring | (X-12049) |



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WORLD'S LARGEST BUILDER OF MOTOR BOATS

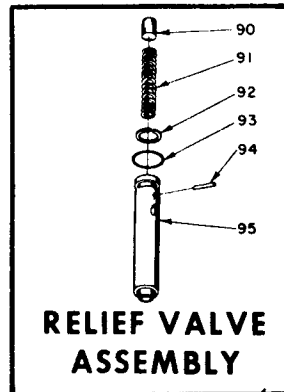
| Code No. | Part No. | No. Req'd | Name | |
|---|-------------|-----------|--|------------|
| <u>REVERSE GEAR HOUSING ASSEMBLY</u> | | | | |
| 37 | 16.50-00148 | 1 | Cover Gasket | (X-12227) |
| 38 | 16.04-90807 | 1 | Distributor Tube | (X-12286) |
| 39 | 16.04-90849 | 1 | Tailshaft Needle Thrust Race | (X-12494) |
| 40 | 16.04-90848 | 1 | Tailshaft Needle Thrust Bearing | (X-12493) |
| 41 | 16.04-90756 | 1 | Retaining Ring 1.5:1 & 2.0:1 | (X-11857) |
| 41 | 16.04-90674 | 1 | Retaining Ring 2.5:1 & 3.0:1 | (X-11859) |
| 42 | 16.90-00013 | 1 | Ball Bearing 1.5:1 & 2.0:1 | (X-12476) |
| 42 | 16.90-00011 | 1 | Ball Bearing 2.5:1 & 3.0:1 | (X-12478) |
| 43 | 16.04-90830 | 1 | Reduction Pinion Tailshaft 1.5:1 RH Rot. | (Z-12041) |
| | 16.04-90831 | 1 | Reduction Pinion Tailshaft 1.5:1 LH Rot. | (Z-12335) |
| | 16.04-90832 | 1 | Reduction Pinion Tailshaft 2.0:1 RH Rot. | (Z-12042) |
| | 16.04-90833 | 1 | Reduction Pinion Tailshaft 2.0:1 LH Rot. | (Z-12336) |
| | 16.04-90834 | 1 | Reduction Pinion Tailshaft 2.5:1 RH Rot. | (Z-12043) |
| | 16.04-90835 | 1 | Reduction Pinion Tailshaft 2.5:1 LH Rot. | (Z-12337) |
| | 16.04-90836 | 1 | Reduction Pinion Tailshaft 3.0:1 RH Rot. | (Z-12044) |
| | 16.04-90837 | 1 | Reduction Pinion Tailshaft 3.0:1 LH Rot. | (Z-12338) |
| 44 | 16.04-90705 | 1 | Reduction Adapter Plate 1.5:1 | (RA-15-1T) |
| | 16.04-90846 | 1 | Reduction Adapter Plate 2.0:1 | (RA-20-1V) |
| | 16.04-90704 | 1 | Reduction Adapter Plate 2.5:1 | (RB-25-1M) |
| | 16.04-90847 | 1 | Reduction Adapter Plate 3.0:1 | (RB-30-1P) |
| 44A | 16.04-90813 | 1 | Breather | (X-11196) |



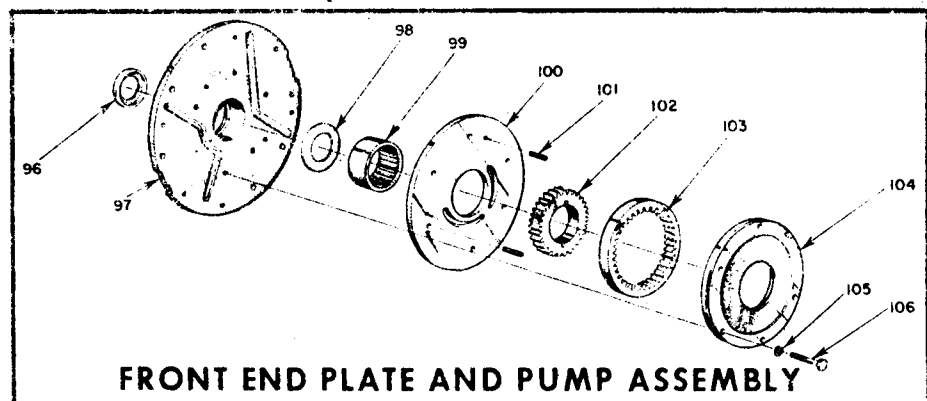
| Code No. | Part No. | No. Req'd | Name |
|-------------|-------------|--------------|------|
|-------------|-------------|--------------|------|

REVERSE GEAR - HYDRAULIC - PARAGON P-300**RELIEF VALVE ASSEMBLY**

| | | | | |
|----|-------------|---|-----------------------------|------------|
| 90 | 16.04-90411 | 1 | Relief Valve Plug | (HF-1066C) |
| 91 | 16.04-90410 | 1 | Relief Valve Spring | (HF-1075) |
| 92 | 16.04-90824 | 1 | Relief Valve Retaining Ring | (X-12351) |
| 93 | 16.51-00009 | 1 | Relief Valve "O" Ring | (X-11779) |
| 94 | 16.04-90412 | 1 | Relief Valve Pin | (HF-1095) |
| 95 | 16.04-90823 | 1 | Relief Valve Housing | (X-12350) |

**FRONT END PLATE AND PUMP ASSEMBLY**

| | | | | |
|--|-------------|---|---------------------------|-----------|
| 96 | 16.51-10013 | 1 | Front Plate Oil Seal | (X-11791) |
| NOTE: The following part is used only in the P-300 Gear before gear serial number 5J-1846. | | | | |
| 97 | 16.04-90798 | 1 | Front Plate P-300 Only | (W-12326) |
| NOTE: The following part is used only in the P-300 Gear after gear serial number 5J-1845 | | | | |
| 97 | 16.04-90858 | 1 | Front Plate P-300 Only | (W-12529) |
| 98 | 16.04-90622 | 1 | Front Plate Thrust Washer | (X-11728) |
| 99 | 16.04-90623 | 1 | Roller Bearing | (X-11729) |
| NOTE: The following part is used only in the P-300 before gear serial number 5J-1846. | | | | |
| 100 | 16.04-90799 | 1 | Pump Port Plate | (Z-12327) |

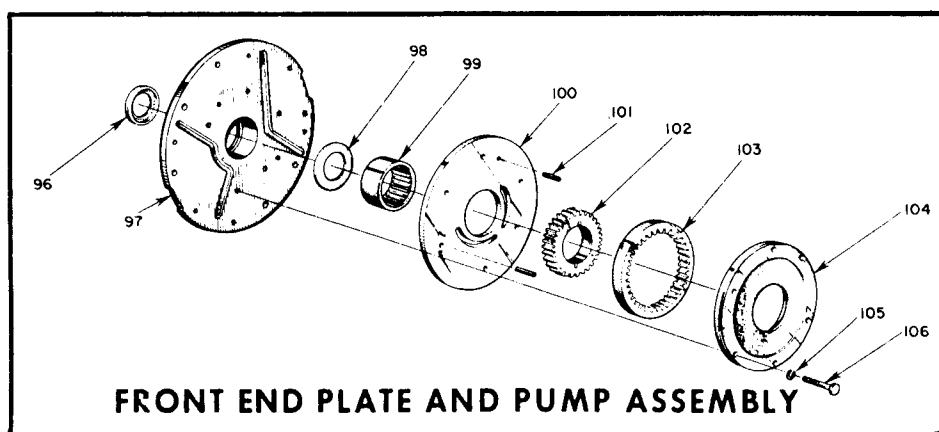


| Code | Part | No. | |
|---|------|-------|------|
| No. | No. | Req'd | Name |
| <u>REVERSE GEAR - HYDRAULIC - PARAGON P-300</u> | | | |

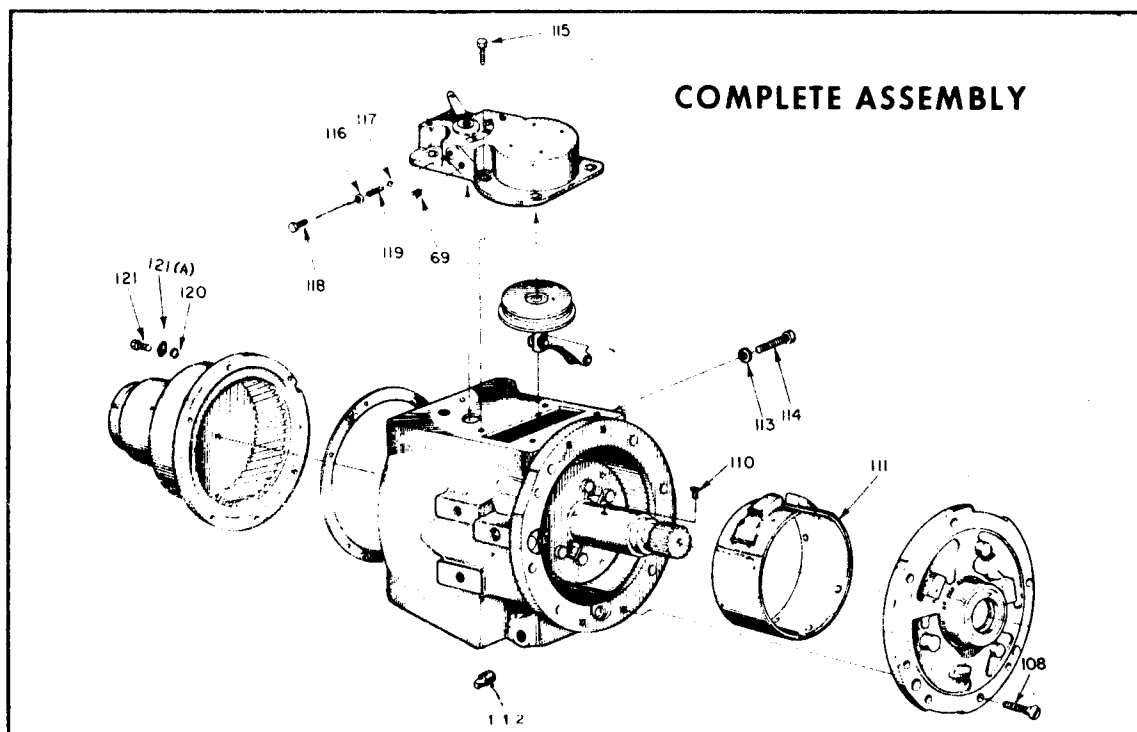
FRONT END PLATE AND PUMP ASSEMBLY

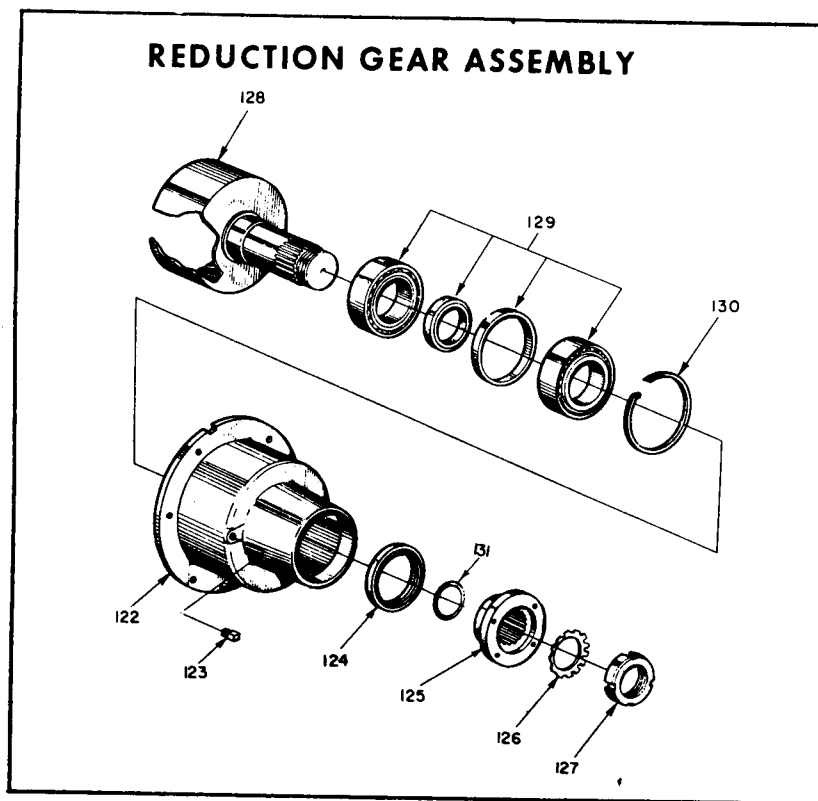
NOTE: The following part is used only in the P-300
after gear serial number 5J-1845.

| | | | | |
|-----|-------------|---|------------------------------|-----------|
| 100 | 16.04-90857 | 1 | Pump Port Plate | (Z-12530) |
| 101 | 16.04-90624 | 2 | Pump Housing Pin | (X-11735) |
| 102 | 16.04-90626 | 1 | Inner Pump Gear | (X-11733) |
| 103 | 16.04-40439 | 1 | Outer Pump Gear | (HF-1084) |
| 104 | 16.04-90625 | 1 | Pump Housing | (X-11732) |
| 105 | 16.04-90644 | 6 | Lockwasher 5/16" | |
| 106 | 16.04-90539 | 6 | Capscrew 5/16" - 18 x 1-1/2" | |



| Code No. | Part No. | No. Req'd | Name | |
|--|-------------|-----------|--|------------|
| <u>REVERSE GEAR - HYDRAULIC - PARAGON P-300</u> | | | | |
| <u>COMPLETE ASSEMBLY</u> | | | | |
| 108 | 16.04-90806 | 6 | Flat Head Socket Capscrew | |
| 110 | 16.04-90388 | 1 | Pump Key | (X-11196) |
| 111 | 16.04-90808 | 1 | Reverse Band Assembly - Consists of the following three (3) items: | |
| | 16.04-90809 | 1 | Band | (Y-12302) |
| | 16.04-90110 | 1 | Lining | (2XE-370E) |
| | 16.04-90914 | 1 | Lining | (X-12544) |
| | 16.04-90662 | 12 | Rivets | |
| 112 | 16.58-80013 | 1 | Pipe Plug | |
| 113 | 16.04-90660 | * | Brass Washer 1/2" | |
| 114 | 16.04-90878 | 1 | Brake Band Support Screw | (X-12450) |
| 115 | 16.04-90812 | 6 | External Socket Head Capscrew | |
| 116 | 16.04-90467 | 1 | Detent Seal Washer | (X-11573) |
| 117 | 16.04-90606 | 1 | Detent Ball | (X-11773) |
| 118 | 16.04-90667 | 1 | Capscrew 5/16" - 18 x 1/2" | |
| 119 | 16.04-90607 | 1 | Detent Spring | (X-11774) |
| 120 | 16.04-90683 | 6 | Lockwasher 3/8" | |
| 121 | 16.04-90682 | 6 | Capscrew 3/8" - 16 x 1-1/8" | |
| 121-A | 16.04-90446 | 2 | Seal Washer - 2.5:1 Only | (X-11353) |
| *As Required | | | | |





| Code No. | Part No. | No. Req'd | Name | |
|--|-------------|-----------|--|-------------|
| <u>REVERSE GEAR - HYDRAULIC - PARAGON P-300</u> | | | | |
| <u>REDUCTION GEAR ASSEMBLY</u> | | | | |
| 122 | 16.04-90844 | 1 | Reduction Gear Housing - 1.5:1 & 2.0:1 | (RA20-3AA) |
| 122 | 16.04-90845 | 1 | Reduction Gear Housing - 2.5:1 & 3.0:1 | (RB20-3R) |
| 123 | 16.58-80010 | 1 | Pipe Plug - Square Head 3/8" - 18 | |
| 124 | 16.51-10020 | 1 | Oil Seal | (X-11518) |
| 125 | 16.04-90853 | 1 | Gear Half Coupling | (X-12054) |
| 126 | 16.04-90854 | 1 | Lockwasher | (X-12053) |
| 127 | 16.04-90855 | 1 | Locknut | (X-12052) |
| 128 | 16.04-90839 | 1 | Internal Gear - 1.5:1 & 2.0:1 RH Rot. Only | (RA20-0-5B) |
| | 16.04-90838 | 1 | Internal Gear - 1.5:1 & 2.0:1 LH Rot. Only | (RA20-5B) |
| | 16.04-90841 | 1 | Internal Gear - 2.5:1 & 3.0:1 RH Rot. Only | (RB20-0-5B) |
| | 16.04-90840 | 1 | Internal Gear - 2.5:1 & 3.0:1 LH Rot. Only | (RB20-5B) |
| 129 | 16.04-90850 | 1 | Bearing Assembly - 1.5:1 & 2.0:1 | (X-12306) |
| | 16.04-90851 | 1 | Bearing Assembly - 2.5:1 & 3.0:1 | (X-12307) |
| 130 | 16.04-90227 | 1 | Retaining Ring - 1.5:1 & 2.0:1 | (RA20-350) |
| | 16.04-90852 | 1 | Retaining Ring - 2.5:1 & 3.0:1 | (X-12308) |
| 131 | 16.51-00005 | 1 | "O" Ring | (X-11352) |

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