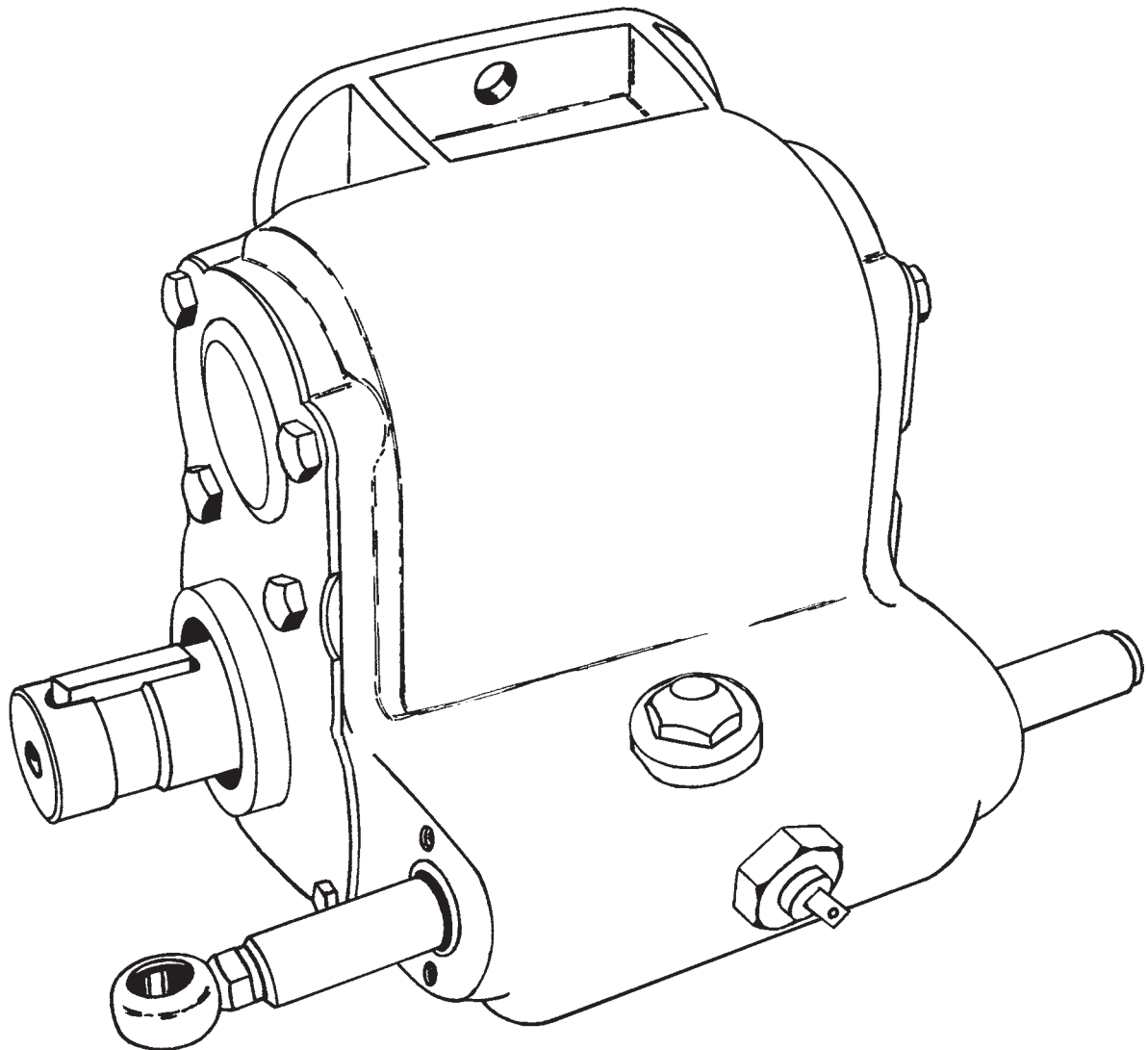


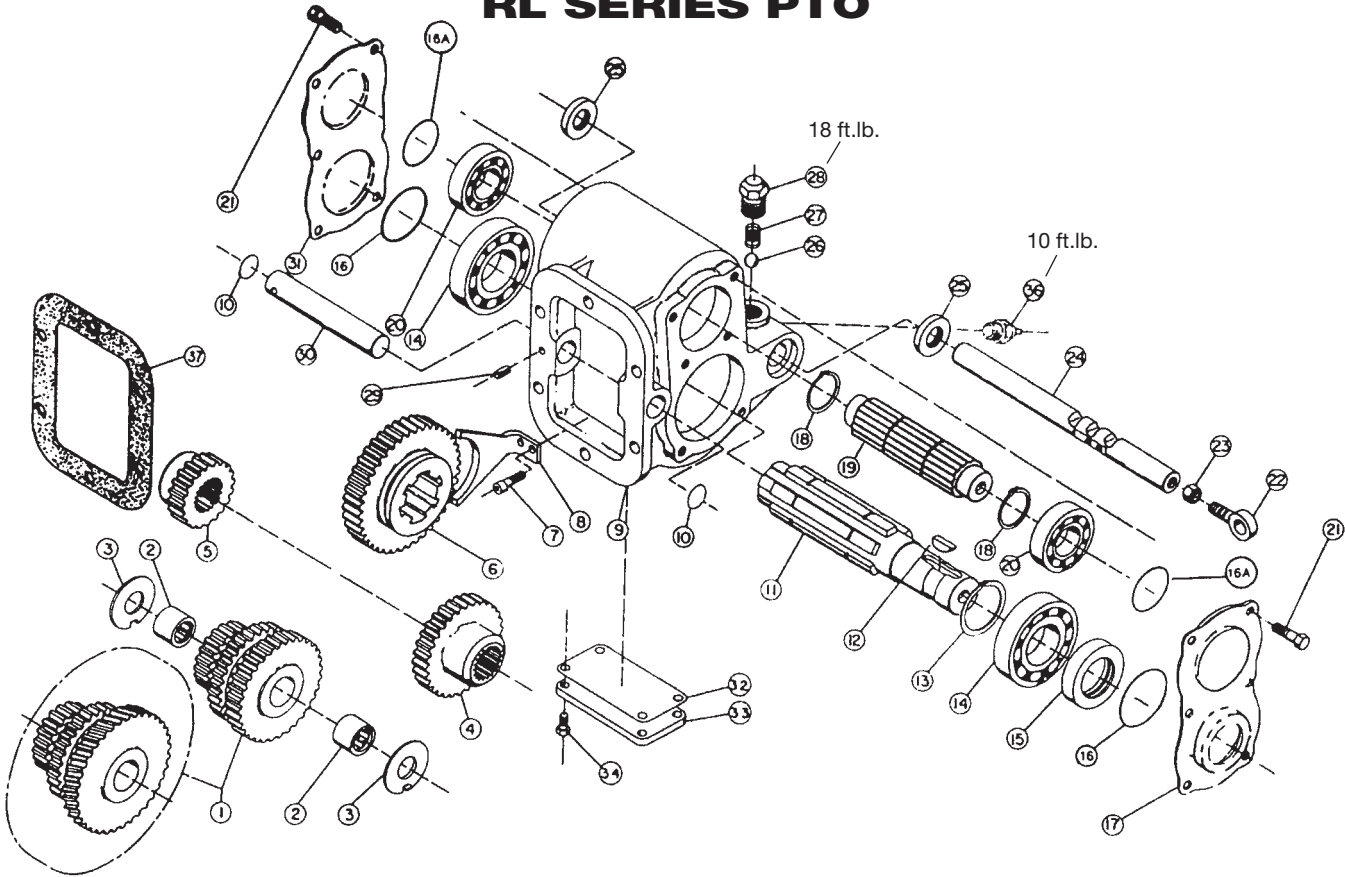


RL SERIES PTO

PARTS LIST AND SERVICE MANUAL



RL SERIES PTO



MODEL NUMBER CONSTRUCTION

RL 6D — U68 05 — L 3 B X

PTO Type

Reversible L Series — RL

Mounting

S.A.E. 6 Bolt Std. Mtg. — 6D
S.A.E. 8 Bolt Std. Mtg. — 8S

Trans.

RL Gear Data

| | | |
|-----------|---------------------------|------|
| Clark | 5.700P 25° PA 38.7° LH | -C57 |
| Clark | 6.100P 25° 32' 16' 48" LH | -C61 |
| Fuller | 6.1P 20.5° PA 29° LH | -F61 |
| Fuller | 6.35P 20° PA 22° LH | -F63 |
| Mack | 6.48P 17° 30' Spur | -M65 |
| Spicer | 6P 17.5° 26° 10' 37" LH | -S60 |
| Spicer | 7P 17.5° 28° 4' 23" LH | -S70 |
| Universal | 5 or 5/7P 20° Spur | -U57 |
| Universal | 6 or 6/8P 20° Spur | -U68 |

Special Feature

X — None

Output Type

B — 1-1/4 RD Std.

Assy. Arrangement

2

3

Shifter Type

A — Manual Air

L — Lever

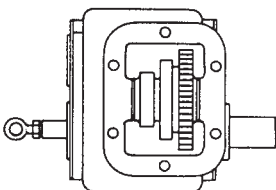
Speed Ratio

03 — .24:1 (w/Low Box)

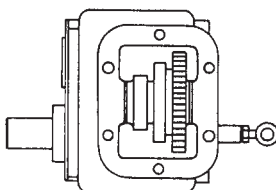
05 — .50:1

ASSEMBLY ARRANGEMENTS

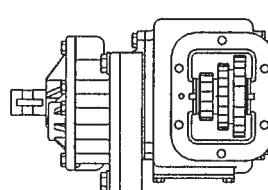
05 RATIO
2



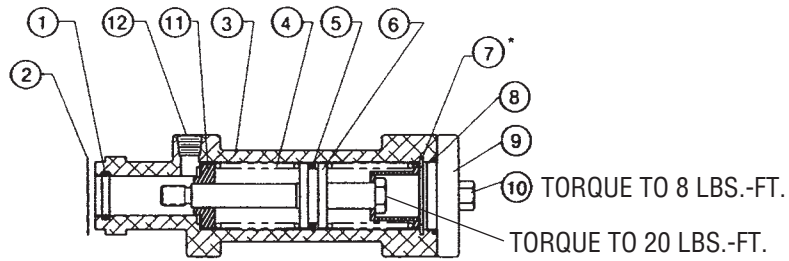
05 RATIO
3



03 RATIO
3



AIR SHIFT CYLINDER 47TA3845



PARTS LIST & DESCRIPTION

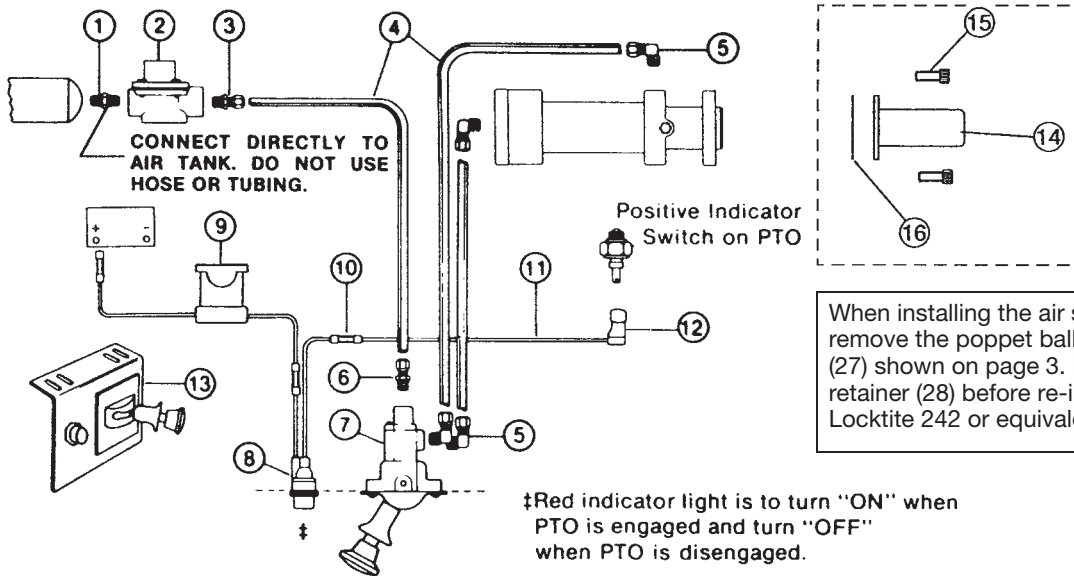
| ITEM | QTY | PART NUMBER | DESCRIPTION |
|------|-----|-------------|--|
| 1 | 1 | 12T35611 | O-Ring |
| 2 | 1 | 13T35597 | Gasket |
| 3 | 1 | 28T35599 | Housing |
| 4 | 1 | 27T35600 | Spring |
| 5 | 1 | 12T35621 | O-Ring |
| 6 | 1 | 28TA3861 | Piston Assembly (Incl: Piston, Piston Rod, Spring, and Retainer) |

| ITEM | QTY | PART NUMBER | DESCRIPTION |
|------|-----|-------------|-----------------|
| 7* | 1 | 24T35623 | Snap Ring |
| 8 | 1 | 12T35622 | O-Ring |
| 9 | 1 | 28T35689 | End Cap |
| 10 | 2 | 19T34494 | Cap Screw |
| 11 | 1 | 28T35663 | Spring Retainer |
| 12 | 2 | 25T34029 | Cap Plug |
| N.S. | 2 | 19T35624 | Cap Screw |

*CAUTION: When removing item #7 (Snap Ring), there is a 32 Lb. preload on the springs. Depress piston assembly with proper tool before removal. Do not remove during attachment to PTO.

STANDARD AIR SHIFT SYSTEM

48M61260-A (12V LIGHT) • 48M62460-A (24V LIGHT)



When installing the air shift system, remove the poppet ball (26) and spring (27) shown on page 3. Reseal poppet retainer (28) before re-installing, using Locktite 242 or equivalent.

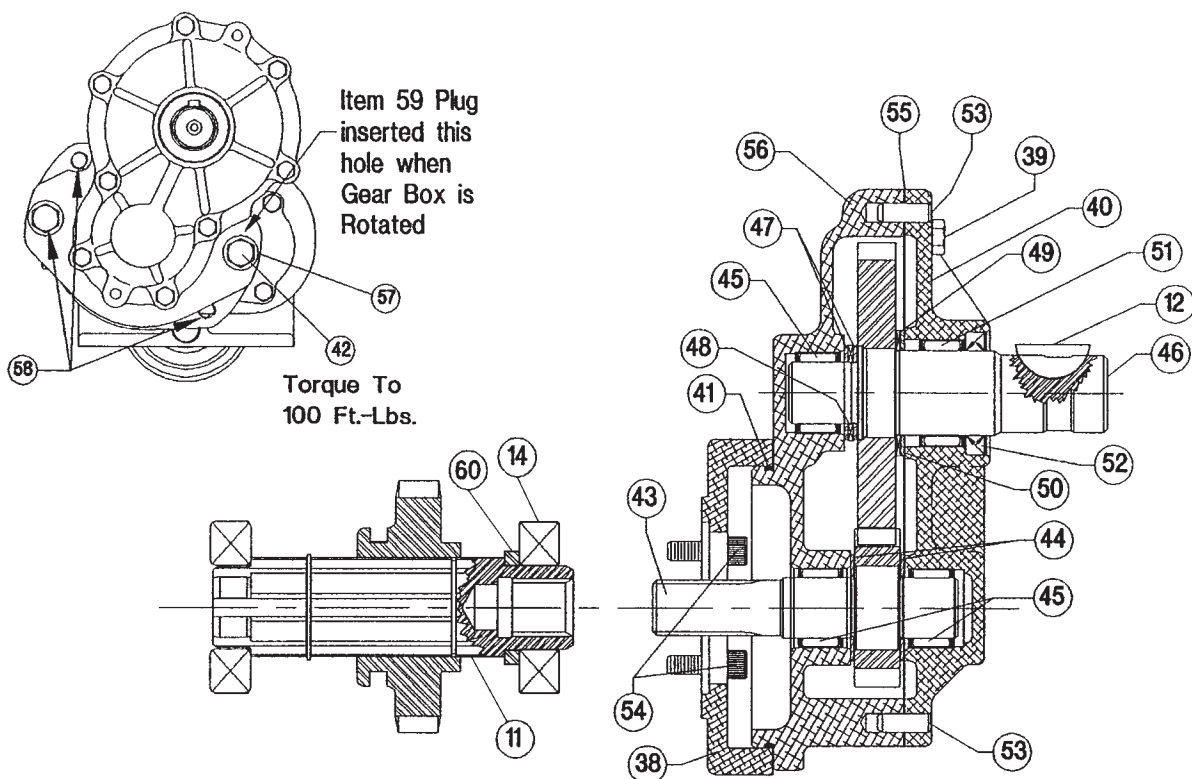
PARTS LIST & DESCRIPTION

| ITEM | QTY | PART NUMBER | DESCRIPTION |
|------|-----|-------------|---------------------------|
| 1 | 1 | 44MB2164 | Nipple |
| 2 | 1 | 31M15759 | Pressure Protection Valve |
| 3 | 1 | 44MB6844 | Tube Fitting |
| 4 | 1 | 45M44430 | Air Tubing - 30' |
| 5 | 4 | 44MB6942 | Tube Fitting (Elbow) |
| 6 | 1 | 44MB6842 | Tube Fitting |
| 7 | 1 | 35M18783 | Air Valve |
| 8 | 1 | 32M12001 | Light (12 Volt) |
| | 1 | 32M24001 | Light (24 Volt) |
| 9 | 1 | 33T36299 | Fuse Assembly |
| 10 | 3 | 34M18002 | Butt Splice |
| 11 | 12 | 37M18000 | Electric Wire - 12' |

| ITEM | QTY | PART NUMBER | DESCRIPTION |
|------|-----|-----------------|--|
| 12 | 1 | 34T38163 | Booted Connector |
| 13 | 1 | 36MA1006 | Dash Bracket |
| N.S. | 4 | 22MX2520 | .25-20 Hex Nut |
| N.S. | 4 | 19T34530 | .25-20 x .50 |
| N.S. | 1 | 36MK1011 | Buttonhead Capscrew |
| N.S. | 1 | 36MK1011 | Bolt Kit (Includes 4 each: Bolts, Nuts & Flat Washers) |
| N.S. | 1 | 36M01009 | Face Plate |
| | | 16TK3896 | Shift Protector Kit: |
| 14 | 1 | 28T36461 | Cap |
| 15 | 2 | 19T31664 | Capscrew |
| 16 | 1 | 13T33976 | Gasket |

NOTE: Conversion Kit Number - Lever to Air (12 Volt only listed) 16MK4261-A (Includes Air Cylinder).

RL SERIES LOW BOX

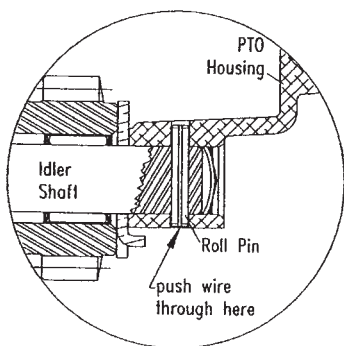


PARTS LIST & DESCRIPTION

| ITEM | QTY | PART NUMBER | DESCRIPTION |
|------|-----|-------------|----------------------------|
| 11 | 1 | 06T39215 | Shaft, Output |
| 14 | 2 | 10T21017 | Ball Bearing |
| 24 | 1 | 17T35231 | Shaft, Shifter |
| 38 | 1 | 14T35213 | Mounting Flange |
| 39 | 8 | 19T32740 | Hex Head Capscrew |
| 40 | 1 | 15T35209 | Cover, Low Box |
| 41 | 1 | 12T36872 | O-Ring |
| 42 | 2 | 19T35998 | Hex Head Capscrew |
| 43 | 1 | 07TA3806 | Input Shaft Assy, Low Box |
| 44 | 2 | 21T35233 | Thrust Washer, Bearing |
| 45 | 3 | 10T35243 | Needle Bearing, Low Box |
| 46 | 1 | 06TA3807 | Output Shaft Assy, Low Box |
| 47 | 2 | 21T35242 | Thrust Race |

| ITEM | QTY | PART NUMBER | DESCRIPTION |
|------|-----|-------------|--|
| 48 | 1 | 10T27216 | Needle Bearing |
| 49 | 1 | 10T35239 | Needle Bearing |
| 50 | 1 | 21T35241 | Thrust Race |
| 51 | 1 | 10T35253 | Needle Bearing |
| 52 | 1 | 11T37790 | Oil Seal |
| 53 | 2 | 26T35232 | Dowel Pin |
| 54 | 4 | 19T39257 | Socket Head Capscrew |
| 55 | 1 | 13T35219 | Gasket, Cover |
| 56 | 1 | 01T35217 | Housing, Low Box |
| 57 | 2 | 21T36002 | Washer, Hardened Steel |
| 58 | 3 | 25T36001 | Heli-Coil Insert (Inserted - Not sold Separately) |
| 59 | 1 | 19T35235 | Plug |
| 60 | 1 | 18T39214 | Spacer |

SUB ASSEMBLIES: RL**-***05-L3VX RL - unit only with special shifter shaft, output shaft and flange to mount Low Box.
 RLGB-200-125 Low Box assembly.



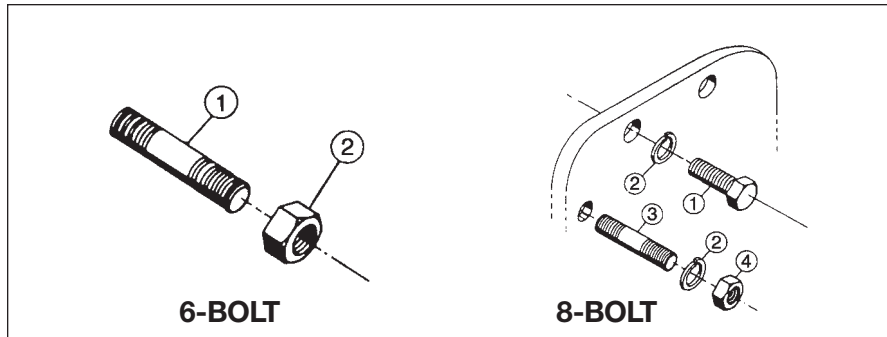
ROLL PIN REMOVAL

When removing the roll pin in the idler shaft, first insert a small diameter wire into the center of the pin and push through to determine whether there is a through hole in the housing. The older style housing has a shorter roll pin which must be pushed flush with the idler shaft before removing the shaft. The current style housing allows the roll pin to be driven completely through the housing prior to removal of the idler shaft.

RL SERIES PARTS LIST & DESCRIPTION

| ITEM | QTY | PART NUMBER | DESCRIPTION | ITEM | QTY | PART NUMBER | DESCRIPTION |
|------|-----|-------------|------------------------------|------|-----|-------------|---|
| 1 | 1 | 03T39075 | Input Gear (M65) (24/21/14T) | 19 | 1 | 08T28693 | Reverse Idler Shaft |
| | 1 | 03T96711 | Input Gear (C57) (16/21/14T) | 20 | 2 | 10T21042 | Bearing |
| | 1 | 03T96712 | Input Gear (C61) (19/21/14T) | 21 | 12 | 19T33233 | Cap Screw |
| | 1 | 03T35078 | Input Gear (F61) (17/21/14T) | 22 | 1 | 28T34746 | Eye Bolt |
| | 1 | 03T35301 | Input Gear (F63) (22/21/14T) | 23 | 1 | 22T21723 | Nut |
| | 1 | 03T39182 | Input Gear (S60) (19/21/14T) | 24 | 1 | 17T39077 | Shifter Shaft |
| | 1 | 03T33137 | Input Gear (S70) (23/21/14T) | | 1 | 17T35231 | Shifter Shaft (Low Box) |
| | 1 | 03T28982 | Input Gear (U57) (18/21/14T) | 25 | 2 | 11T36865 | Seal |
| | 1 | 03T28697 | Input Gear (U68) (22/21/14T) | 26 | 1 | 28T20486 | Ball (Not used in air shift) |
| 2 | 2 | 10T28691 | Bearing | 27 | 1 | 27T22021 | Spring (Not used in air shift) |
| 3 | 2 | 21T21760 | Washer | 28 | 1 | 28T22019 | Poppet Retainer |
| 4 | 1 | 04T28694 | Idler Gear | 29 | 1 | 26T24874 | Roll Pin (5/8" Long) |
| 5 | 1 | 04T28696 | Reverse Gear (14T) | | 1 | 26T35996 | Roll Pin (1-1/8" Long) |
| 6 | 1 | 02T28695 | Output Gear (28T) | 30 | 1 | 07T36895 | Idler Shaft |
| 7 | 2 | 19T35624 | Capscrew | 31 | 1 | 15T34877 | Cap |
| 8 | 1 | 28T24419 | Yoke | 32 | 1 | 13T34022 | Gasket |
| 9 | 1 | 01T39076 | Housing (6-Bolt) | 33 | 1 | 16T33999 | Inspection Cover |
| | 1 | 01T35310 | Housing (8-Bolt) | 34 | 4 | 19T34028 | Capscrew |
| 10 | 2 | 12T36899 | O-Rings | 36 | 1 | 30T38111 | Indicator Sw. (N.O.-White) (Incl. 12T36526 O-Ring) |
| 11 | 1 | 06T28805 | Output Shaft | 37 | 1 | 13M35091 | .010 6-Bolt Gasket |
| | 1 | 06T39215 | Output Shaft (Low Box) | | 1 | 13M35092 | .020 6-Bolt Gasket |
| 12 | 1 | 26T01627 | Woodruff Key | | 1 | 13M35151 | .010 8-Bolt Gasket |
| | 1 | 26T20105 | Square Key | | 1 | 13M35152 | .020 8-Bolt Gasket |
| 13 | 1 | 24T23467 | Snap Ring | N.S. | 1 | 20MK6601 | Mounting Kit 6-Bolt |
| 14 | 2 | 10T21017 | Bearing | | 1 | 20MK8800 | Mounting Kit 8-Bolt |
| 15 | 1 | 11T37002 | Seal | N.S. | 1 | RL-GSK | Gasket & Seal Kit Includes items: 10(2), 15(1), 16(2), 16A(2), 25(2), 32(1), 12T36526(1) |
| 16 | 2 | 13T21041 | Gasket (Old Style) | | | | |
| | 2 | 12T36751 | O-Ring | | | | |
| 16A | 2 | 12T36874 | O-Ring | | | | |
| 17 | 1 | 15T34878 | Cap | | | | |
| 18 | 2 | 24T24314 | Snap Ring | | | | |

Torque 5/16" Capscrews to 18 Ft.-Lbs. Torque 1/4" Capscrews to 9 Ft.-Lbs.



6-BOLT MOUNTING KITS

| Item | Qty | Part No. | Description |
|------|-----|----------|-------------|
|------|-----|----------|-------------|

20MK6601 RL6D

| | | | |
|---|---|----------|---------|
| 1 | 6 | 20M38150 | Stud |
| 2 | 6 | 22T39282 | Hex Nut |

20MKM602 RL6C METRIC

| | | | |
|---|---|----------|-----------|
| 1 | 6 | 20M39040 | 40mm Stud |
| 2 | 6 | 22T39282 | Hex Nut |

8-BOLT MOUNTING KITS

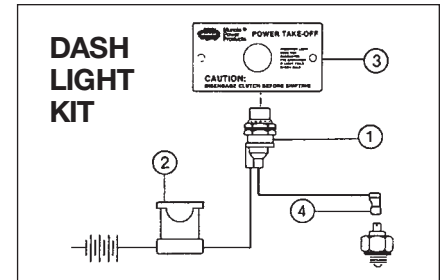
| Item | Qty | Part No. | Description |
|------|-----|----------|-------------|
|------|-----|----------|-------------|

20MK8800 RL8S

| | | | |
|---|---|----------|------------|
| 1 | 6 | 19M44138 | Capscrew |
| 2 | 8 | 21ML4375 | Lockwasher |
| 3 | 2 | 20M44175 | Stud |
| 4 | 2 | 22MX4420 | Nut |

20MKM801 RL8B METRIC

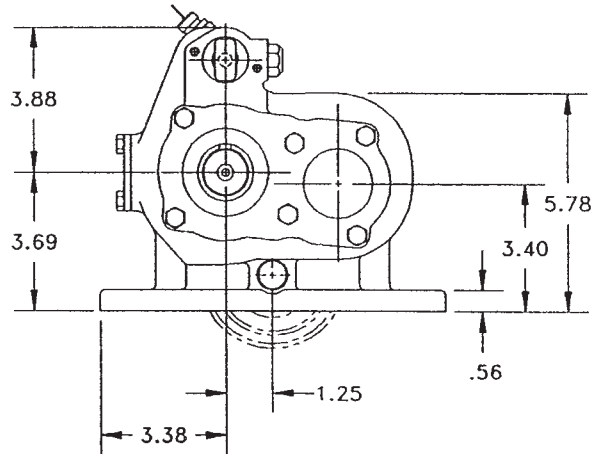
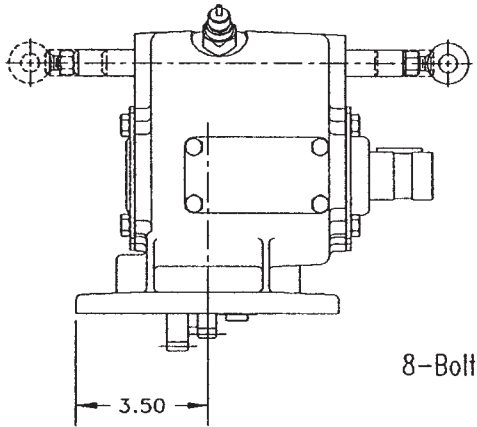
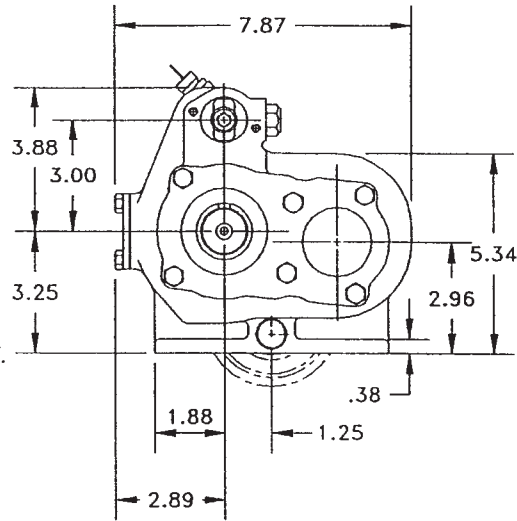
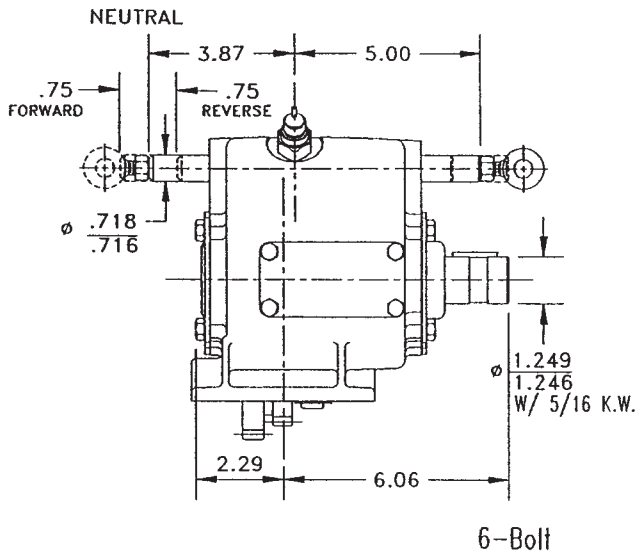
| | | | |
|---|---|----------|------------|
| 2 | 8 | 21ML4375 | Lockwasher |
| 3 | 8 | 20M47050 | 50mm Stud |
| 4 | 8 | 22MX4420 | Nut |



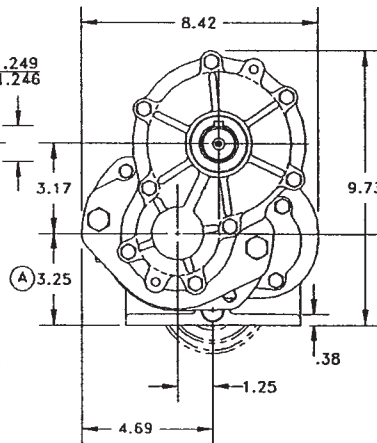
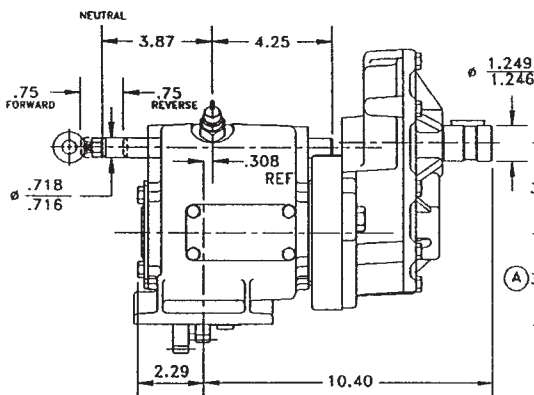
DASH LIGHT KIT 36MK1210-A

| Qty | Qty | Part No. | Description |
|-----|-----|----------|-----------------|
| 1 | 1 | 32M12001 | Indicator Light |
| 2 | 1 | 33T36299 | Fuse Assembly |
| 3 | 1 | 36M16818 | Dash Face Plate |
| 4 | 1 | 34T28163 | Shifter Gasket |

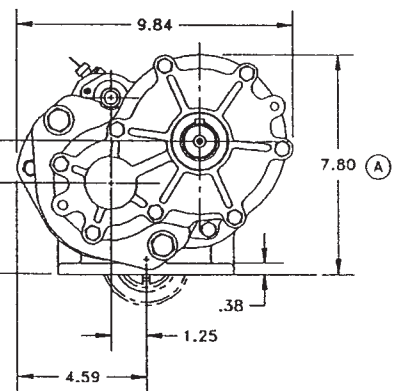
RL SERIES DIMENSIONS



03 RATIO LOW BOX DIMENSIONS



Rotated



(A) ADD .44" FOR 8-BOLT HOUSING



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