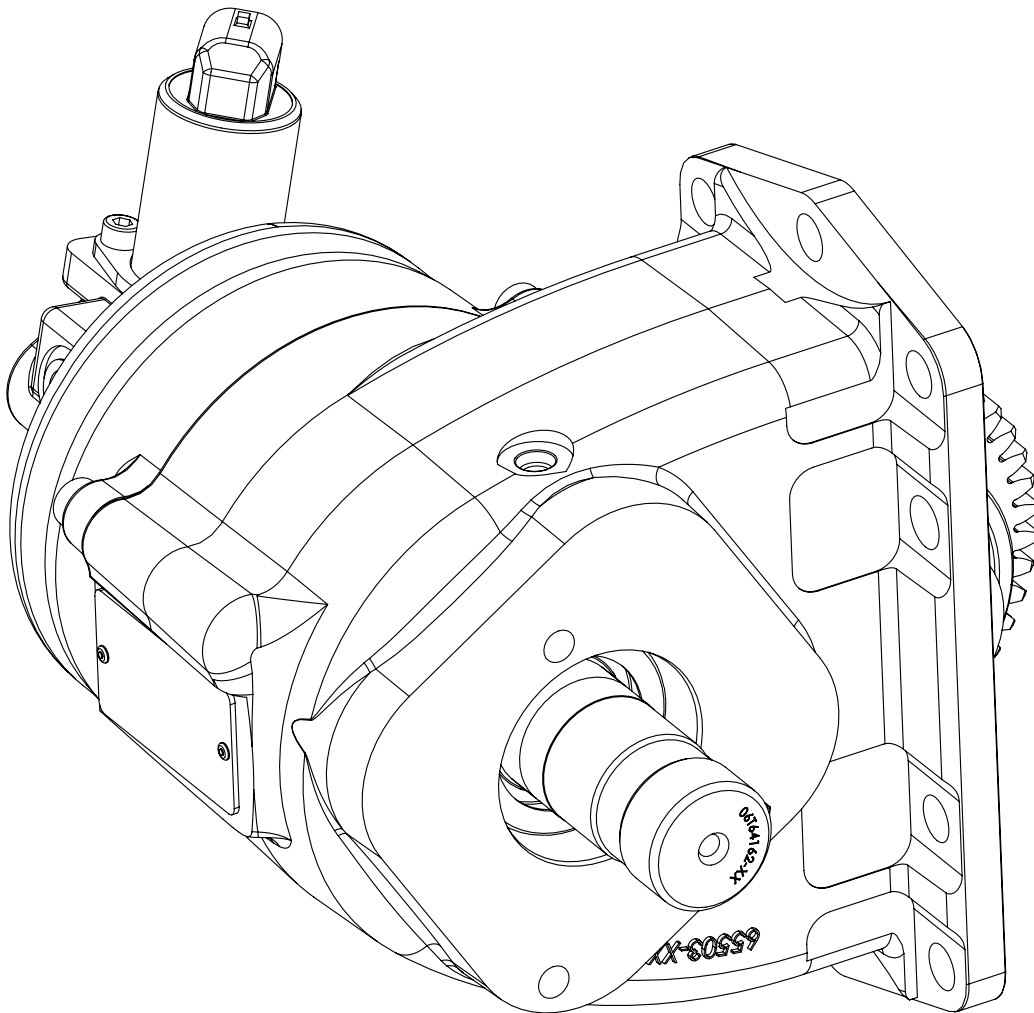




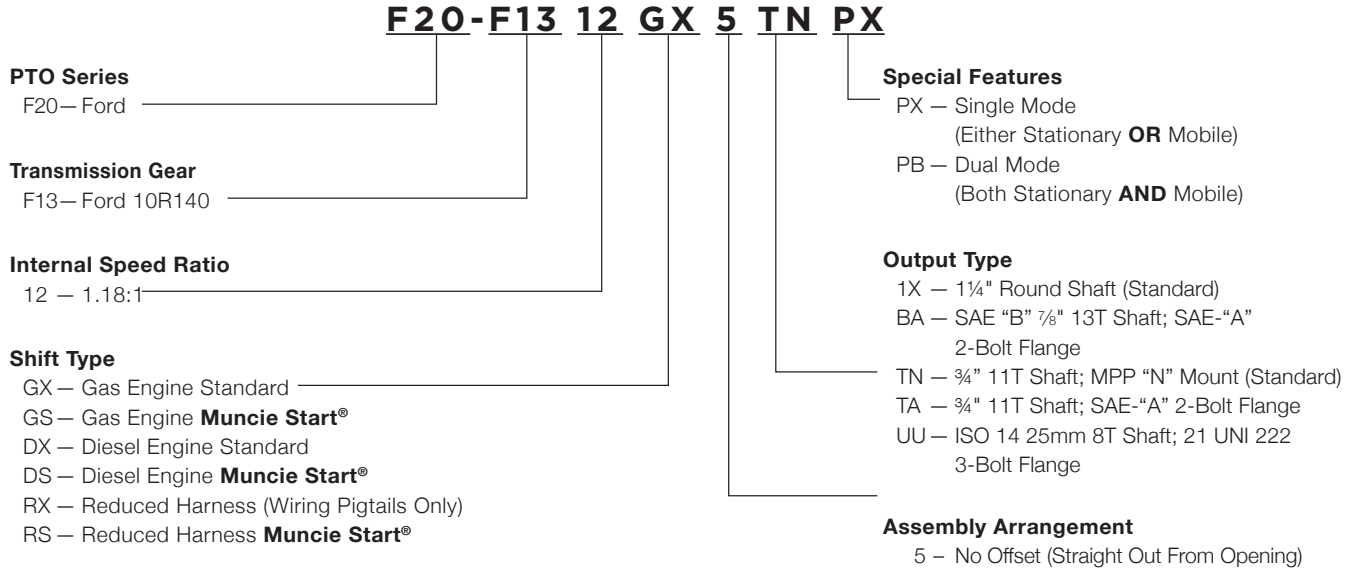
Muncie®
Power
Products

F20 PTO

PARTS LIST AND SERVICE MANUAL



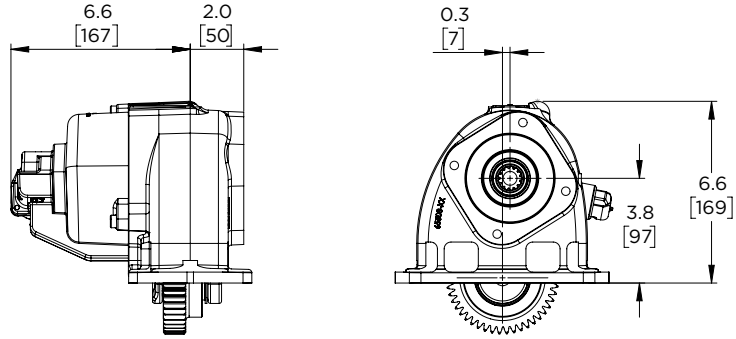
MODEL NUMBER CONSTRUCTION



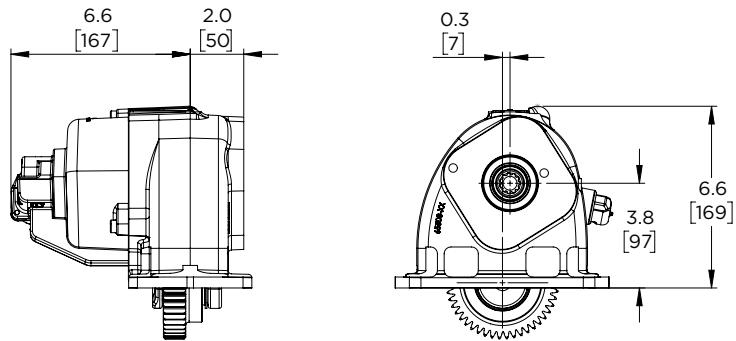
| OTHER F20 LITERATURE | |
|----------------------|--|
| IN17-04 | All PTOs Operator's Manual ES |
| IN17-14 | Muncie Start [®] Ford Installation Sheet ES |
| IN19-04 | F20 10-Bolt Installation Instructions ES |
| IN19-05 | F20 10-Bolt Activation Instructions ES |
| IN19-07 | F20 10-Bolt PTO Activation Instructions ("R" Shift) |
| IN20-04 | F20 Rebuild Instructions |

DIMENSIONS

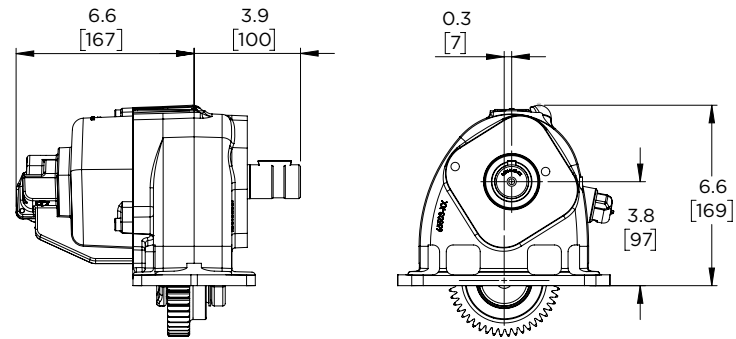
TA OUTPUT — 3/4" -11T SHAFT, SAE "A" 2-BOLT FLANGE
BA OUTPUT — 7/8" -13T SHAFT, SAE "A" 2-BOLT FLANGE



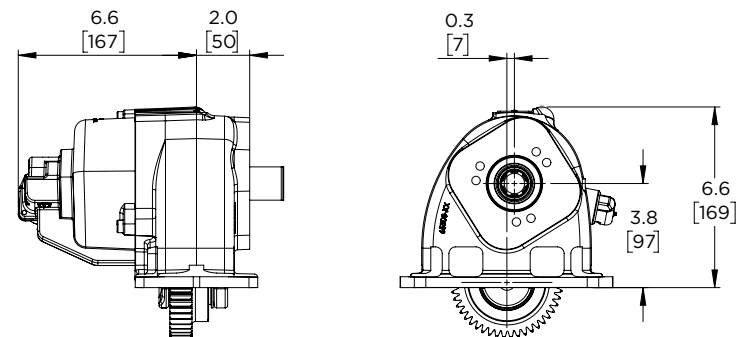
TN OUTPUT — MPP "N" MOUNT 2-BOLT FLANGE



1X OUTPUT — 1 1/4" ROUND KEYED SHAFT

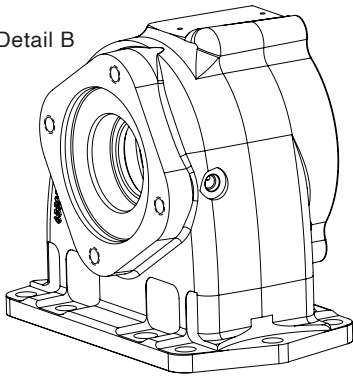


UU OUTPUT — UNI 222 MOUNT 3-BOLT FLANGE

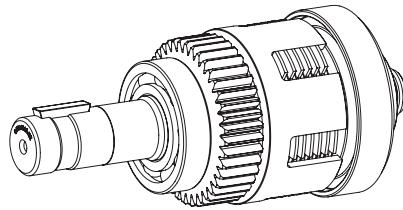


F20 EXPLODED VIEWS

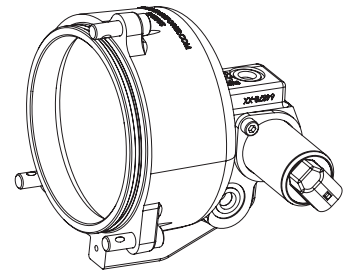
Detail B



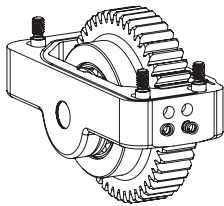
Detail A



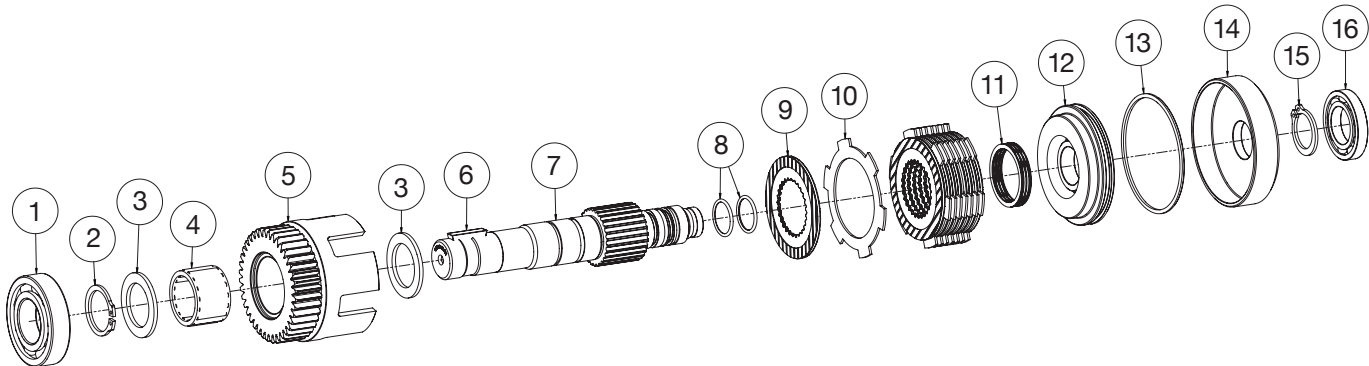
Detail D



Detail C



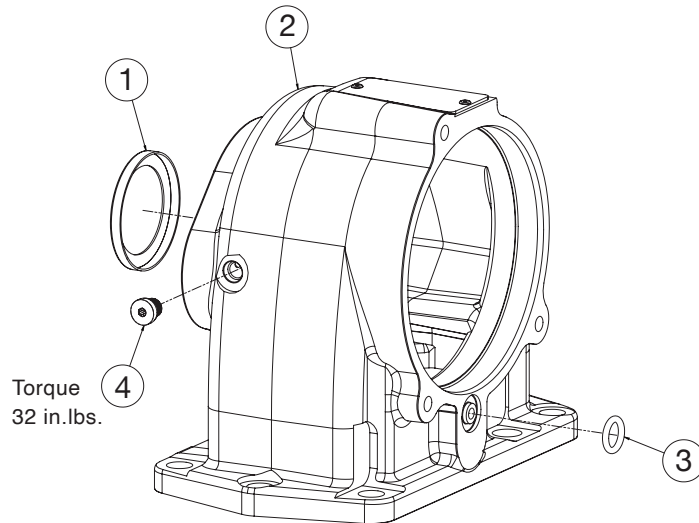
DETAIL A - OUTPUT SHAFT ASSEMBLY



| ITEM | QTY. | PART NO. | DESCRIPTION |
|------|------|----------|-------------------------------------|
| 1 | 1 | 10T21017 | Bearing |
| 2 | 1 | 24T36470 | Snap Ring, Output |
| 3 | 2 | 21T62472 | Thrust Washer |
| 4 | 1 | 10T62471 | Needle Bearing |
| 5 | 1 | 02T65196 | Output Gear |
| 6 | 1 | 26T01627 | Woodruff Key - 5/16" |
| 7 | 1 | 06TA6478 | Output Shaft: 1 1/4" rd., 5/16" Key |
| | | 06TA6472 | Output Shaft: 3/4" -11T |
| | | 06TA6477 | Output Shaft: 7/8" -13T |
| | | 06TA6630 | Output Shaft: UNI |

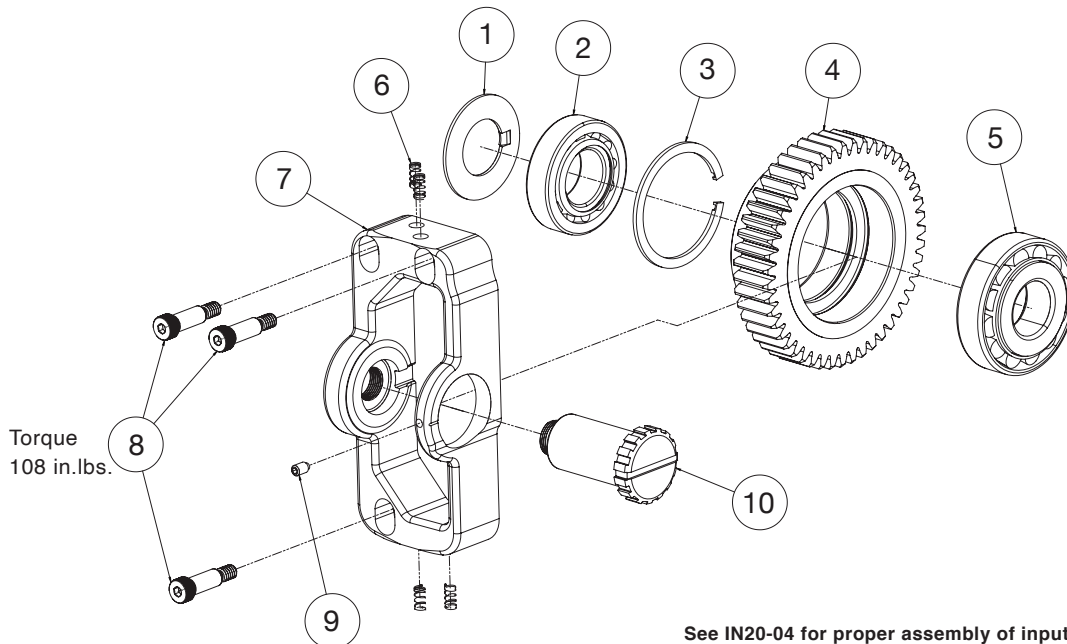
| ITEM | QTY. | PART NO. | DESCRIPTION |
|------|------|----------|----------------------|
| 8 | 2 | 12T39023 | O-Ring |
| 9 | 9 | 49T65367 | Friction Disc |
| 10 | 8 | 49T36258 | Spacer Disc |
| 11 | 1 | 27T61827 | Piston Return Spring |
| 12 | 1 | 49T64056 | Piston |
| 13 | 1 | 12T64059 | Piston O.D. O-Ring |
| 14 | 1 | 49T64057 | Piston Cup |
| 15 | 1 | 24T39182 | Snap Ring |
| 16 | 1 | 10T39072 | Bearing |

DETAIL B - HOUSING ASSEMBLY



| ITEM | QTY. | PART NO. | DESCRIPTION |
|------|------|----------|-----------------------------|
| 1 | 1 | 11T63830 | Shaft Seal |
| 2 | 1 | 01TA6473 | Housing: "TN" |
| | | 01TA6476 | Housing: "BA", "TA", "1X" |
| | | 01TA6613 | Housing: "UU" |
| 3 | 1 | 12T36878 | O-Ring |
| 4 | 1 | 25T65492 | ORB Plug (Not used on "TN") |

DETAIL C - INPUT ASSEMBLY

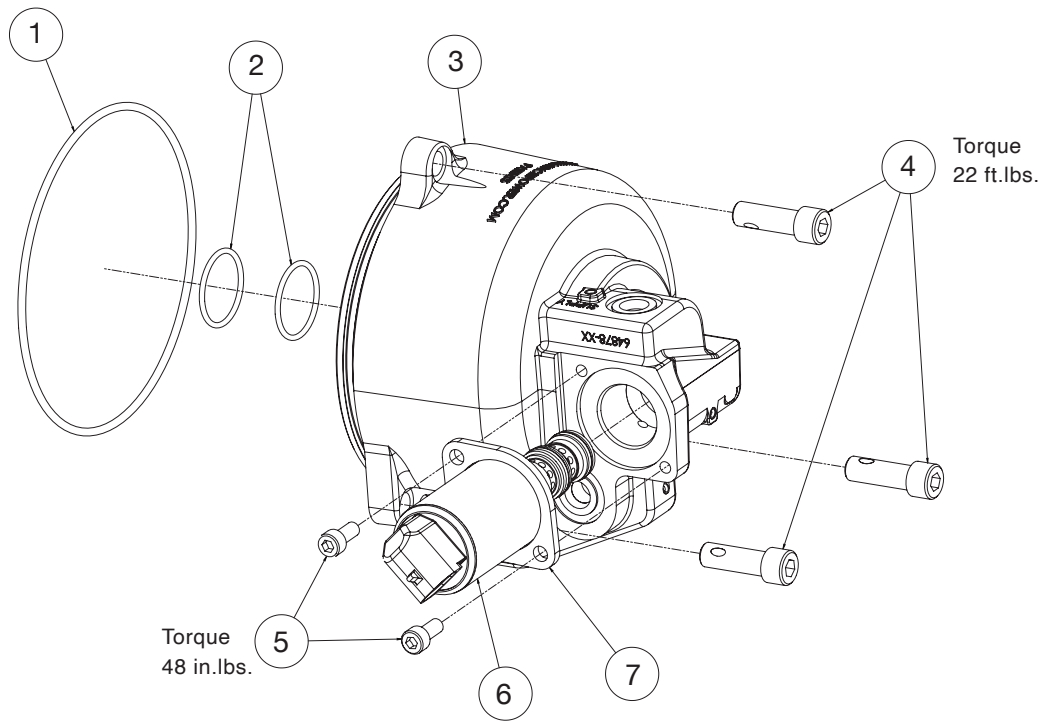


See IN20-04 for proper assembly of input subassembly

| ITEM | QTY. | PART NO. | DESCRIPTION |
|------|------|----------|-----------------------|
| 1 | 1 | 21T62316 | Tabbed Washer |
| 2 | 1 | 10T65008 | Bearing |
| 3 | 1 | 24T65083 | Snap Ring |
| 4 | 1 | 03T64153 | Input Gear (47 Tooth) |
| 5 | 1 | 10T65009 | Bearing |

| ITEM | QTY. | PART NO. | DESCRIPTION |
|------|------|----------|---------------|
| 6 | 4 | 27T63431 | Coil Spring |
| 7 | 1 | 49T64798 | Carrier |
| 8 | 3 | 19T65081 | Shoulder Bolt |
| 9 | 1 | 19T36846 | Set Screw |
| 10 | 1 | 07T64145 | Input Shaft |

DETAIL D - REAR COVER ASSEMBLY



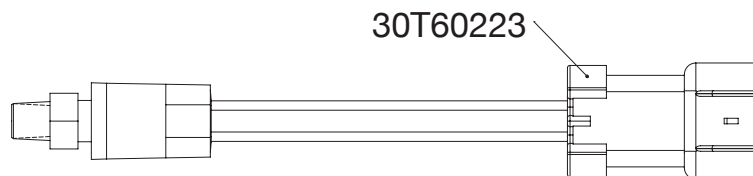
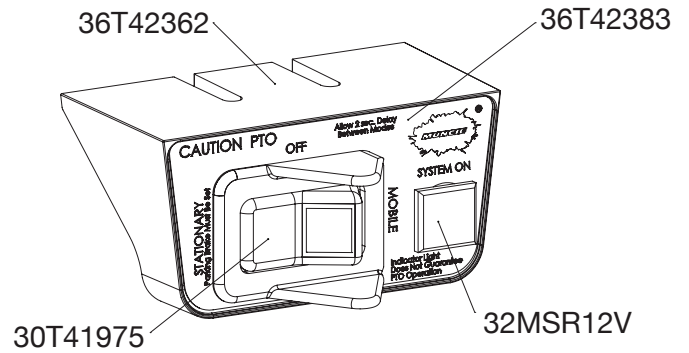
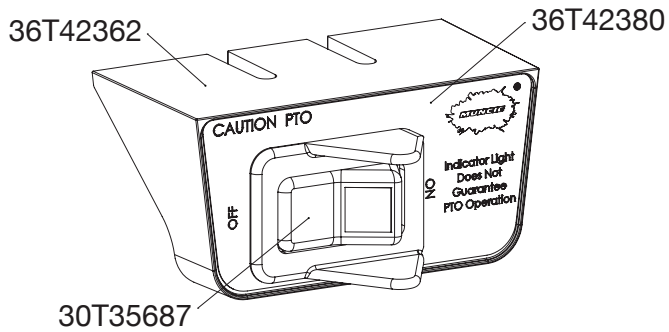
| ITEM | QTY. | PART NO. | DESCRIPTION |
|------|------|----------|----------------------|
| 1 | 1 | 12T36872 | O-Ring |
| 2 | 2 | 12T36280 | O-Ring |
| 3 | 1 | 15TA6474 | Cover, Standard |
| | | 15TA6475 | Cover, Muncie Start® |
| 4 | 3 | 19T36588 | Capscrew |

| ITEM | QTY. | PART NO. | DESCRIPTION |
|------|------|----------|--------------------------------|
| 5 | 2 | 19T62950 | Capscrew |
| 6 | 1 | 35T43600 | Solenoid Valve |
| | | 35T62496 | Solenoid Valve (Muncie Start®) |
| 7 | 1 | 49T62436 | Solenoid Clamp Ring |

| PART NO. | DESCRIPTION | F20GSK (GASKET KIT) | F20RBK (REBUILD KIT) |
|----------|----------------------|---------------------|----------------------|
| | | QTY. | QTY. |
| 10T21017 | Bearing | - | 1 |
| 10T39072 | Bearing | - | 1 |
| 10T62471 | Needle Bearing | - | 1 |
| 10T65008 | Bearing | - | 1 |
| 10T65009 | Bearing | - | 1 |
| 11T63830 | Shaft Seal | 1 | 1 |
| 12T36280 | O-Ring | 2 | 2 |
| 12T36872 | O-Ring | 1 | 1 |
| 12T36878 | Housing O-Ring | 1 | 1 |
| 12T39023 | O-Ring | 2 | 2 |
| 12T64059 | Piston O.D. O-Ring | 1 | 1 |
| 13T64490 | Gasket | 1 | 1 |
| 21T62472 | Thrust Washer | - | 2 |
| 24T36470 | Snap Ring, Output | - | 1 |
| 24T39182 | Snap Ring | - | 1 |
| 24T65083 | Snap Ring | - | 1 |
| 27T61827 | Piston Return Spring | - | 1 |
| 27T63431 | Coil Spring | - | 4 |
| 49T36258 | Spacer Disc | - | 8 |
| 49T35367 | Friction Disc | - | 9 |

INSTALLATION KITS

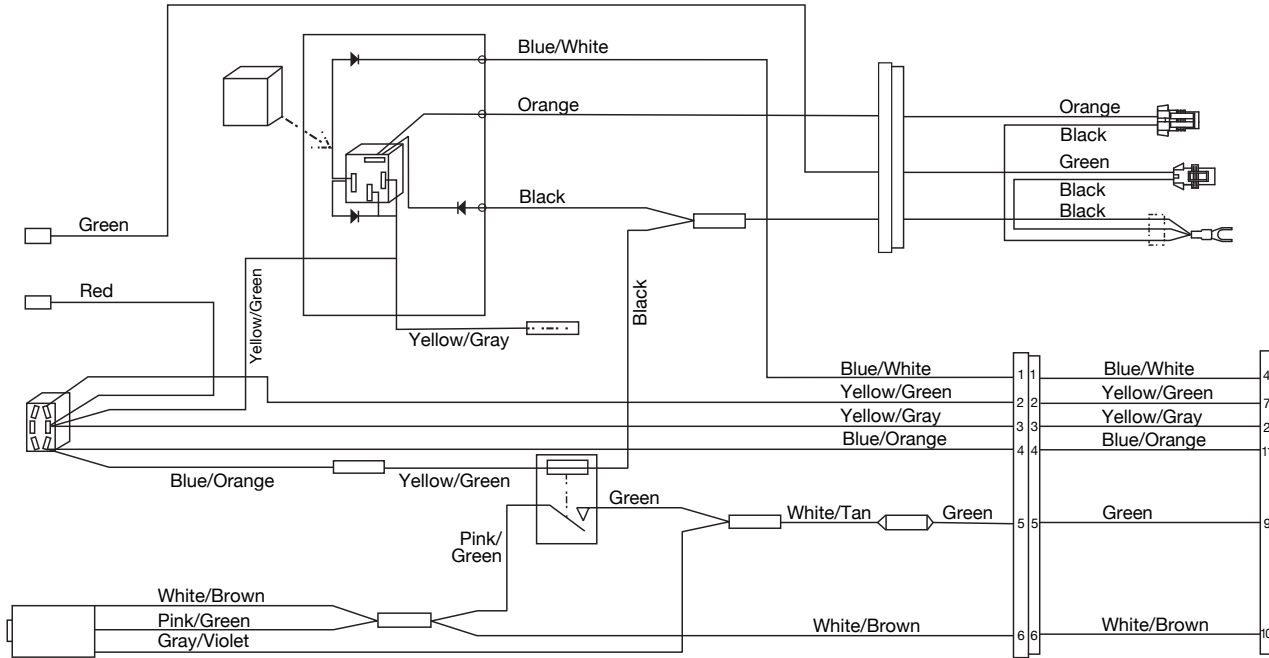
| PART NO. | DESCRIPTION | QUANTITY IN KIT | | | | |
|----------|-----------------------------------|---|---------------------------------------|--------------------------------------|------------------------------------|-----------------------------------|
| | | 48TK6501 DIESEL (SINGLE) D*-5**PX | 48TK6502 DIESEL (DUAL) D*-5**PB | 48TK6503 GAS (SINGLE) G*-5**PX | 48TK6504 GAS (DUAL) G*-5**PB | 48TK6516 "R" Shift R*-5**PX |
| 13T64490 | Gasket | 1 | 1 | 1 | 1 | 1 |
| 19T64695 | PTO Mounting Bolt | 7 | 7 | 7 | 7 | 7 |
| 20T64143 | M10 x M8 Stud | 2 | 2 | 2 | 2 | 2 |
| 21T64303 | Flat Washer | 7 | 7 | 7 | 7 | 7 |
| 22T65300 | M8 Nut | 2 | 2 | 2 | 2 | 2 |
| 28T35442 | Cable Tie | 6 | 6 | 6 | 6 | - |
| 30T35687 | Rocker Switch - Single Mode (PX) | 1 | - | 1 | - | - |
| 30T41975 | Rocker Switch - Dual Mode (PB) | - | 1 | - | 1 | - |
| 30T60223 | Pressure Switch | 1 | 1 | 1 | 1 | 1 |
| 32MSR12V | 12V Red Light | - | 1 | - | 1 | - |
| 34T43730 | Wire Harness - Diesel Single (PX) | 1 | - | - | - | - |
| 34T44005 | Wire Harness - Diesel Dual (PB) | - | 1 | - | - | - |
| 34T43735 | Wire Harness - Gas Single (PX) | - | - | 1 | - | - |
| 34T44000 | Wire Harness - Gas Dual (PB) | - | - | - | 1 | - |
| 34T42527 | Wire Harness - R Shift (R*) | - | - | - | - | 1 |
| 36MK5660 | Switch Kit Bolts | 1 | 1 | 1 | 1 | - |
| 36T42362 | Bracket | 1 | 1 | 1 | 1 | - |
| 36T42380 | Face Plate - Single Mode (PX) | 1 | - | 1 | - | - |
| 36T42383 | Face Plate - Dual Mode (PB) | - | 1 | - | 1 | - |
| 37T35674 | Grommet | 1 | 1 | 1 | 1 | - |
| 43T42792 | 90° Elbow (PTO) | 1 | 1 | 1 | 1 | 1 |
| 43T65280 | 90° Elbow (Trans) | 1 | 1 | 1 | 1 | 1 |
| 45T65570 | Hose Assembly | 1 | 1 | 1 | 1 | 1 |
| 48TK6545 | Label Kit | 1 | 1 | 1 | 1 | 1 |



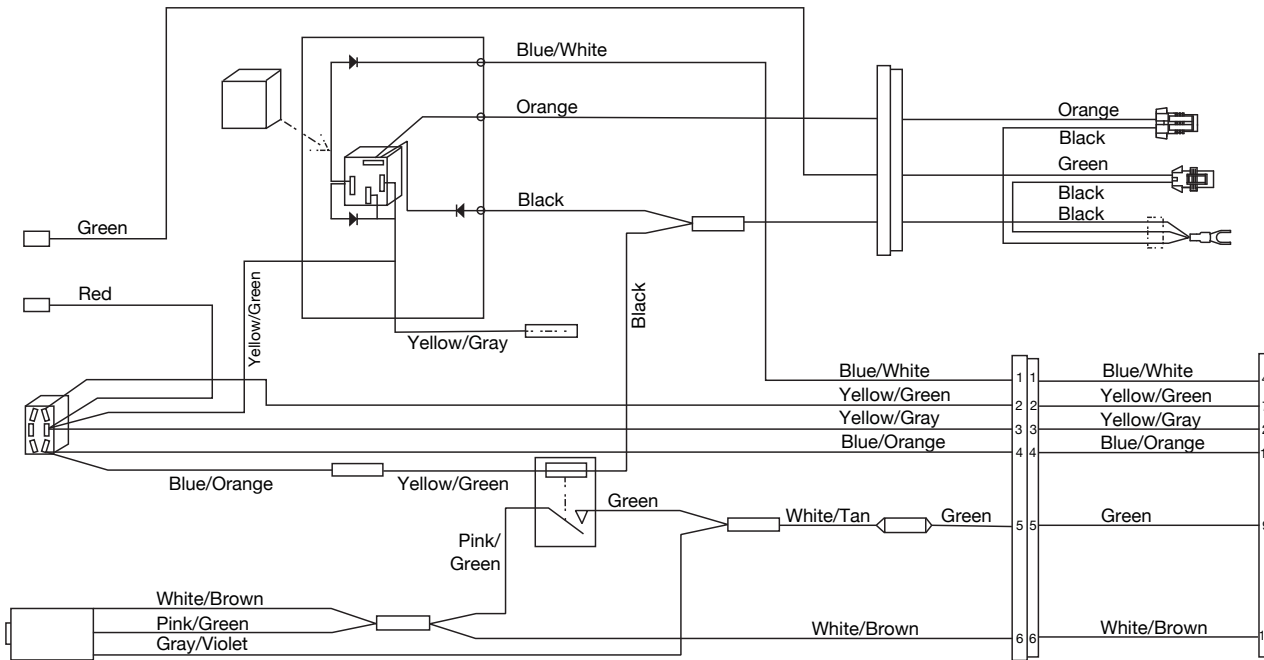
WIRING HARNESSSES

Dual Mode Harnesses (PB)

34T44005



34T44000



Diesel (34T44005)

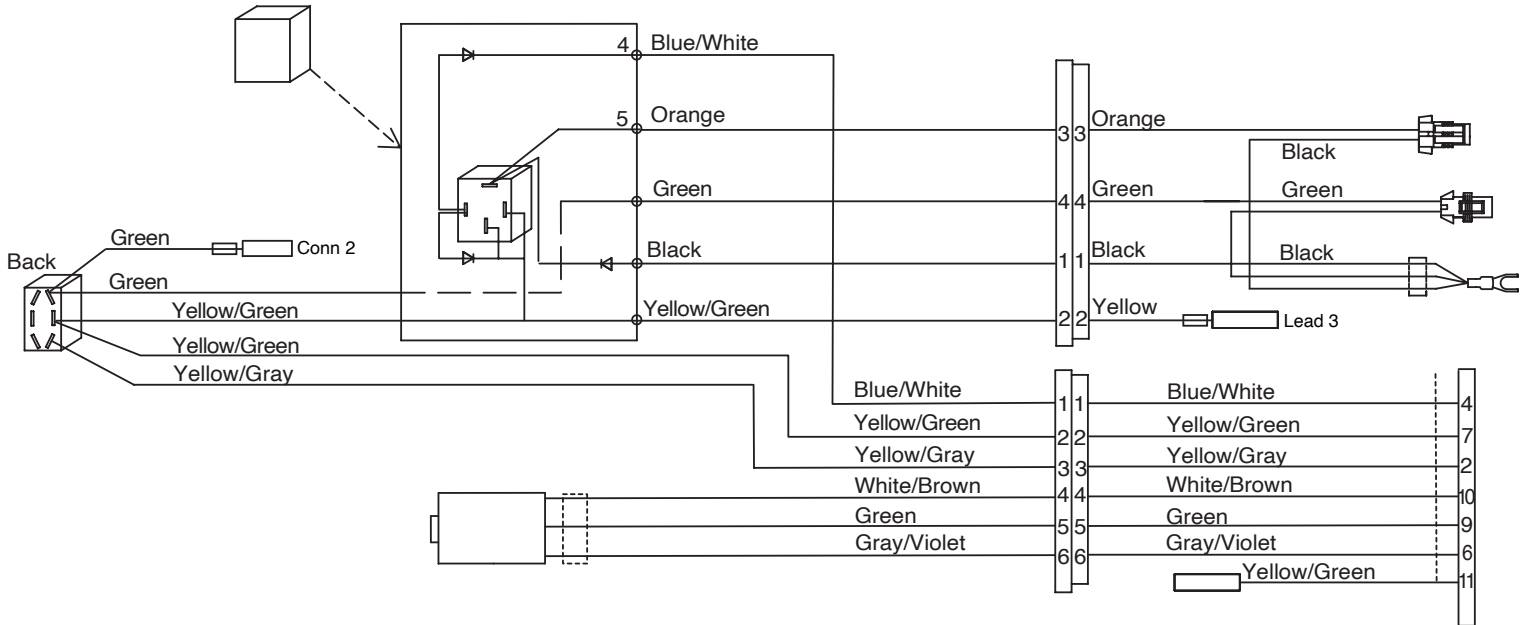
| MUNCIE HARNESS COLOR | FORD WIRE COLOR | PIN# |
|----------------------|----------------------------------|------|
| White/Brown | White/Brown | 10 |
| Green | Green | 9 |
| Yellow/Green | STATIONARY - Yellow/Green | 7 |
| Blue/Orange | MOBILE - Blue/Orange | 11 |
| Blue/White | Blue/White | 4 |
| Yellow/Gray | Green/Orange | 2 |

Gas (34T44000)

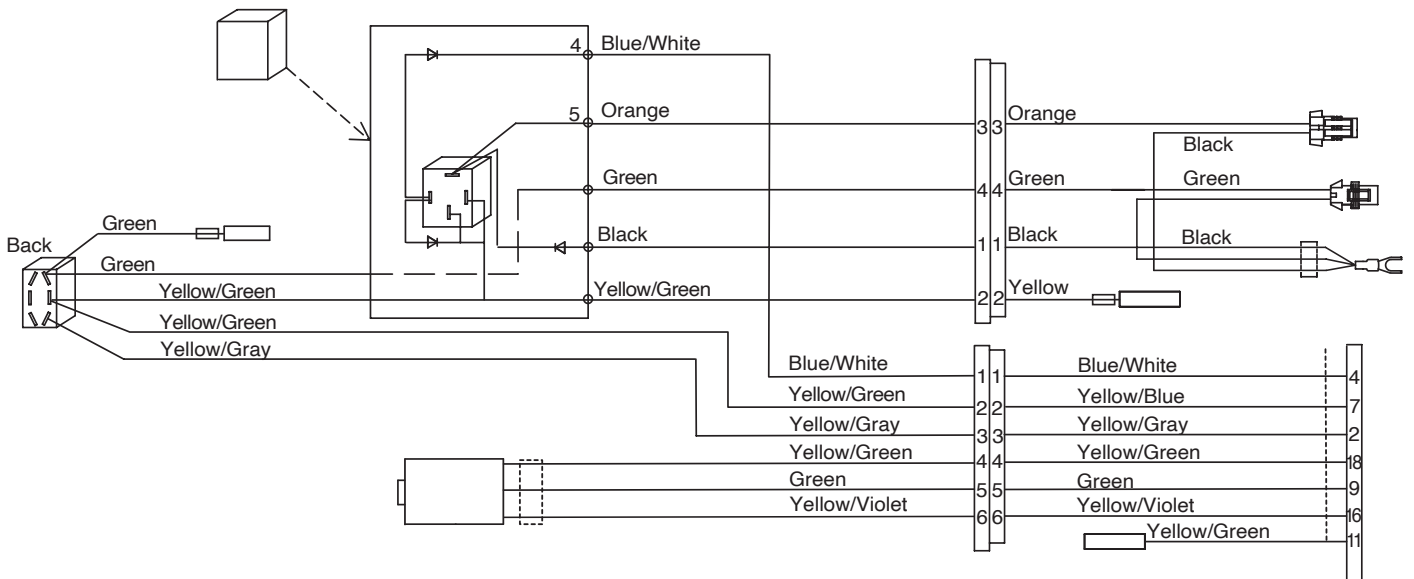
| MUNCIE HARNESS COLOR | FORD WIRE COLOR | PIN# |
|----------------------|----------------------------------|------|
| White/Brown | Yellow/Green | 18 |
| Green | Green | 9 |
| Yellow/Green | STATIONARY - Yellow/Green | 7 |
| Blue/Orange | MOBILE - Blue/Orange | 11 |
| Blue/White | Blue/White | 4 |
| Yellow/Gray | Green/Orange | 2 |

SINGLE MODE HARNESS (PX)

34T43730-01



34T43735-01



Diesel (34T43730)

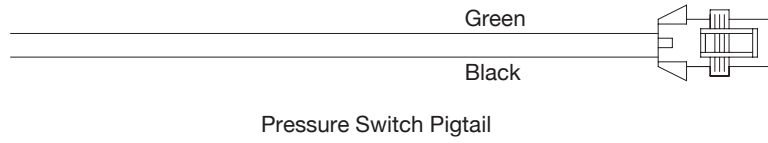
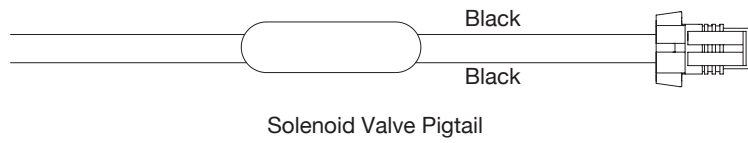
| MUNCIE HARNESS COLOR | FORD WIRE COLOR | PIN# |
|----------------------|----------------------------------|------|
| White/Brown | White/Brown | 10 |
| Green | Green | 9 |
| Yellow/Green | STATIONARY - Yellow/Green | 7 |
| | MOBILE - Blue/Orange | 11 |
| Gray/Violet | Gray/Violet | 6 |
| Blue/White | Blue/White | 4 |
| Yellow/Gray | Green/Orange | 2 |

Gas (34T43735)

| MUNCIE HARNESS COLOR | FORD WIRE COLOR | PIN# |
|----------------------|----------------------------------|------|
| Yellow/Green | Yellow/Green | 18 |
| Green | Green | 9 |
| Yellow/Blue | STATIONARY - Yellow/Green | 7 |
| | MOBILE - Blue/Orange | 11 |
| Yellow/Violet | Yellow/Violet | 16 |
| Blue/White | Blue/White | 4 |
| Yellow/Gray | Green/Orange | 2 |

R SHIFT HARNESS (R*)

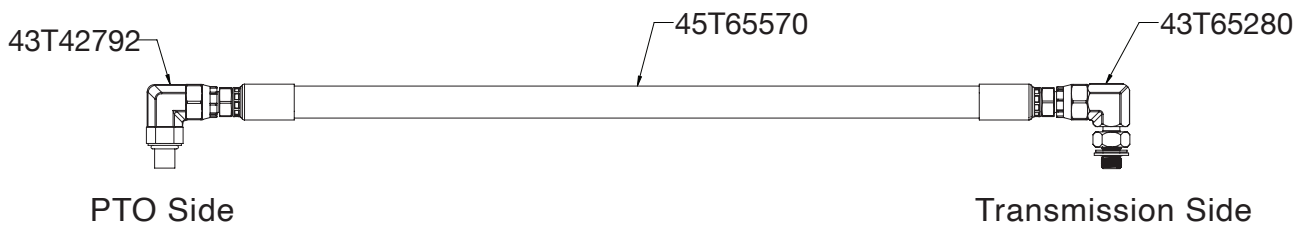
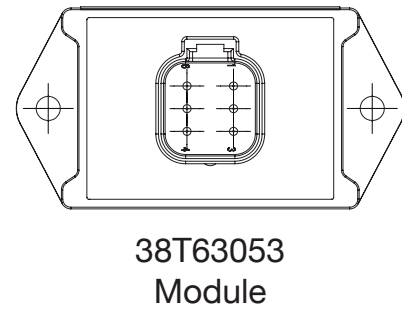
34T42527 (Includes both pigtail assemblies)



MUNCIE START KIT PARTS LIST

(GS, DS, and RS Shift ONLY; Connects to included Wire Harness)

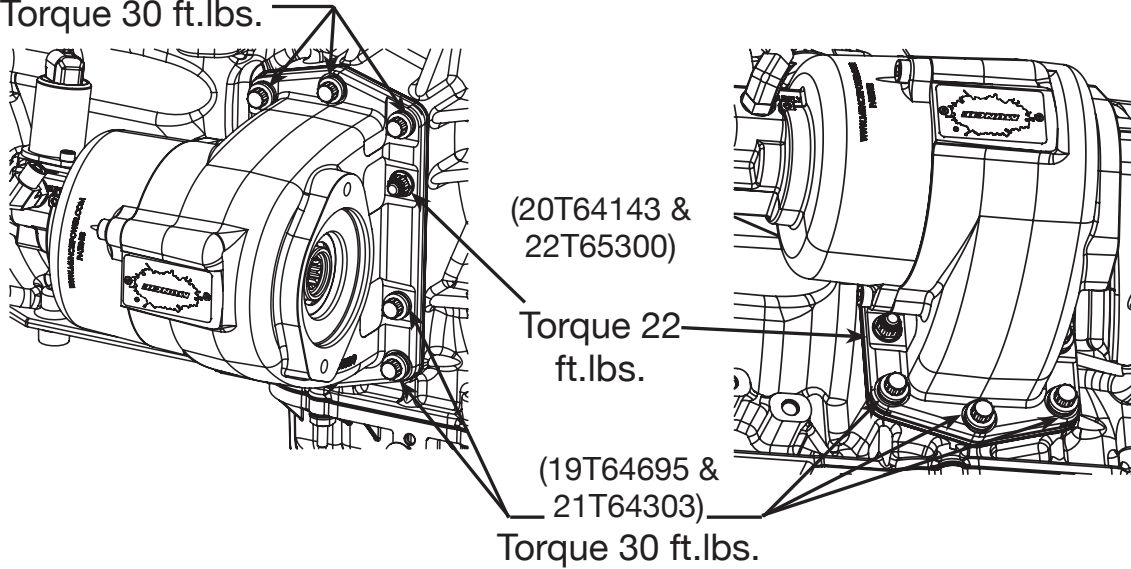
48TK6508



BOLT KIT - 20TK6546

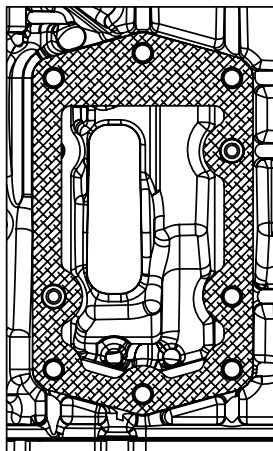
(19T64695 & 21T64303)

Torque 30 ft.lbs.



| QTY. | PART NO. | DESCRIPTION |
|------|----------|-------------------|
| 7 | 19T64695 | PTO Mounting Bolt |
| 7 | 21T64303 | Flat Washer |
| 2 | 20T64143 | M10 x M8 Stud |
| 2 | 22T65300 | M8 Nut |

ORIENTATION FOR GASKET (13T64490)



“UU” OUTPUT PUMP MOUNTING KIT - 48TK6631

| QTY. | PART NO. | DESCRIPTION |
|------|-------------|-------------|
| 1 | 12901552000 | Gasket |
| 3 | 19M15002 | Cap Screw |
| 4 | 21T20526 | Lock Washer |



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SP19-09 (Rev. 02-23)

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