



Hydraulic Systems

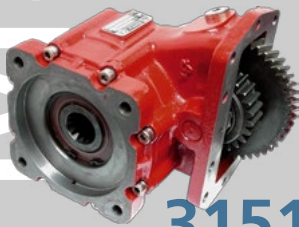
User Manual

For Bezares Hot Shift PTO'S
3131, 3151 and 3252 Series

For Bezares
Hot Shift PTO'S



3131
series



3151
series



3252
series



3252
ISO output

Building our world

+1 888 663 1786 • <http://pto-usa.com> • pto@bezares.com



SAFETY INFORMATION _____	3
FOREWORD _____	4
APPLICATION QUESTIONS _____	5
1- P.T.O 3131 / 3151 FOR WORLD TRANSMISSION SERIES _____	6
BREAK UP VIEW 3131 _____	6
BREAK UP VIEW 3151 _____	7
MOUNTING PTO TO TRANSMISSION _____	8
MOUNTING INSTRUCTIONS SHIFTING KIT _____	10
SHIFTER COMPONENT INTALLATION SKETCH _____	11
PRESSURE PORT AND OPENING IDENTIFICATION _____	12
3- P.T.O 3252 FOR WORLD TRANSMISSION SERIES _____	13
BREAK UP VIEW _____	13
SHIFTER COMPONENT INTALLATION SKETCH _____	14

CAUTION:

TO PREVENT POSSIBLE INJURY OR DEATH: DO NOT go underneath the vehicle with the engine running.

DO NOT attempt to work on an installed Power Take-Off with the engine running.

DO NOT operate the controls of the Power Take-Off or other driven equipment from underneath the vehicle with the engine running.

DO NOT operate the controls of the Power Take-Off or other driven equipment in any position that could result in getting caught in the moving machinery.

CAUTION:

Make sure to block any moving or raised device that may injure a person working on or under the truck. A lever or its linkage may be accidentally moved causing movement of the device which could cause injury to a person near the device.

IMPORTANT:

Because most of our Bezares Power Take-Offs and P.T.O. drive lines are sold through distributors, the product applications and the resulting degree of exposure to danger of the operators are beyond the knowledge and controls of BZ U.S.A.

Therefore, the proper installation of the P.T.O. and its associated equipment, and the decisions of whether to install guards and/or warning signs shall be the responsibility of the designers or installers.

! DANGER

! PELIGRO

NEVER GET UNDER THE TRUCK IF THE ENGINE IS RUNNING!

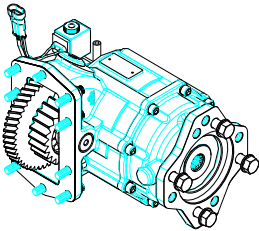


You may be hurt or killed.

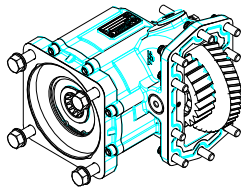
¡NUNCA SE META DEBAJO DEL CAMIÓN CUANDO EL MOTOR ESTÉ EN MARCHA!

Since it is our major objective to show you how to get additional and more profitable miles from truck, tractor and trailer components, we want to provide you with information on the installation of 3131, 3151 and 3252 Series.

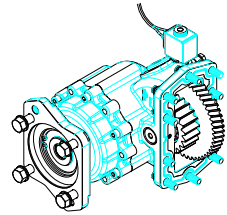
We all realize that an inadequate transmission will overwork any Power Take-Off in a very short period of time. In addition, a mismatched transmission/P.T.O. combination can result in unsatisfactory performance of the equipment right from the start.



P.T.O. 3131 SERIES
(Heavy Duty)



P.T.O. 3151 SERIES
(Heavy Duty - Constant Mesh)



P.T.O. 3252 SERIES
(Heavy Duty - Low Profile)

Before you order new trucks be sure that you're getting the right transmission/P.T.O. combination. It is of vital importance for efficient performance to have adequate power. To help you select the proper type, size and design of P.T.O. it is advisable to discuss your specific requirements with a Bezares P.T.O. specialist. They know their products and Power Take-Offs. They can inform you about everything you need to know about power, at the right time, before you specify components.

Here are some of the questions that are relevant to the Proper Selections of a Transmission mounted Power Take-Offs.

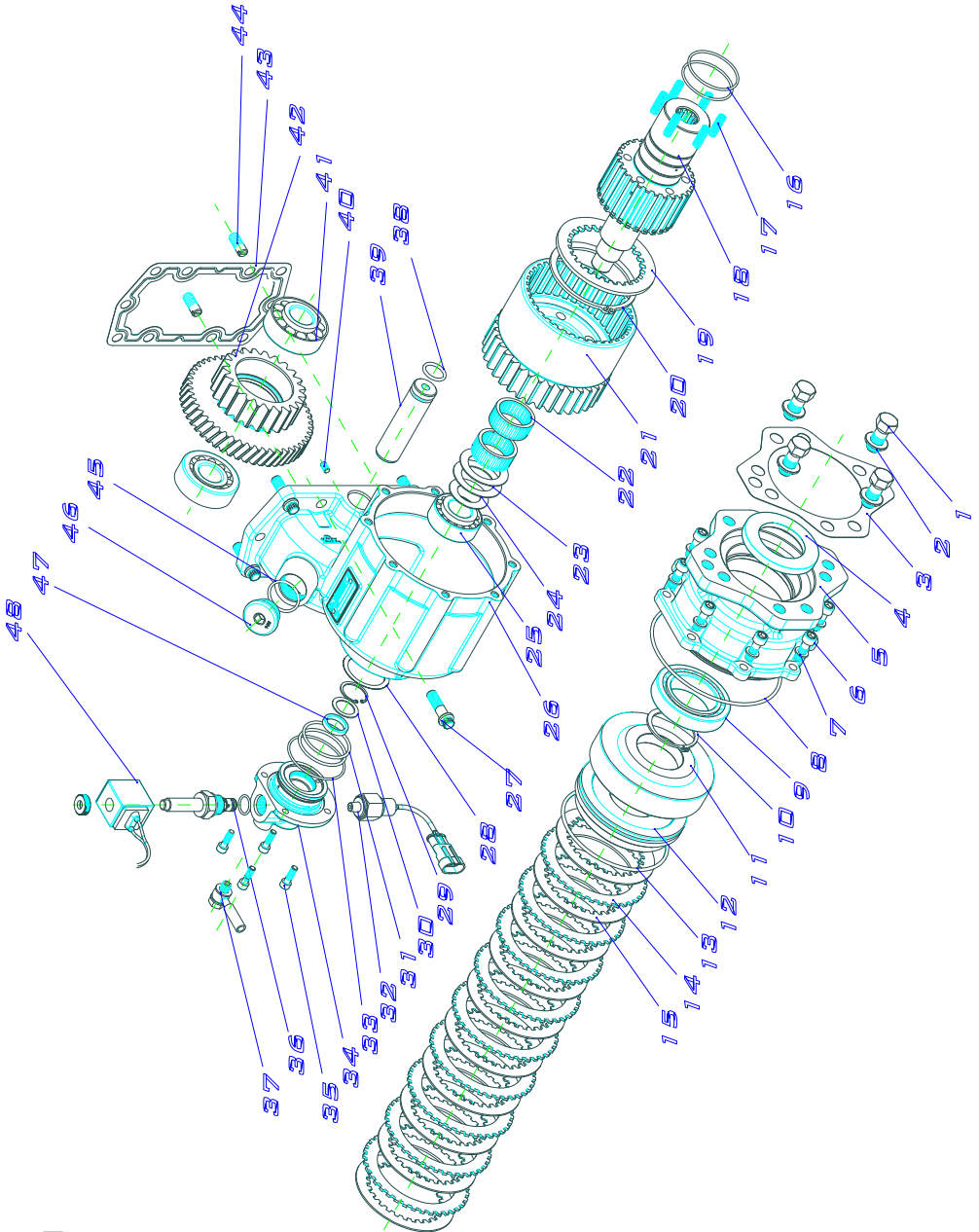
1. What is the make and model of your transmission?
2. Which P.T.O. opening will be used?
3. What accessory is to be driven?
4. How much horsepower is required to drive the accessory?
5. What is the required rotation of the P.T.O.?
6. What is the required P.T.O. output shaft speed as a percent of engine speed?

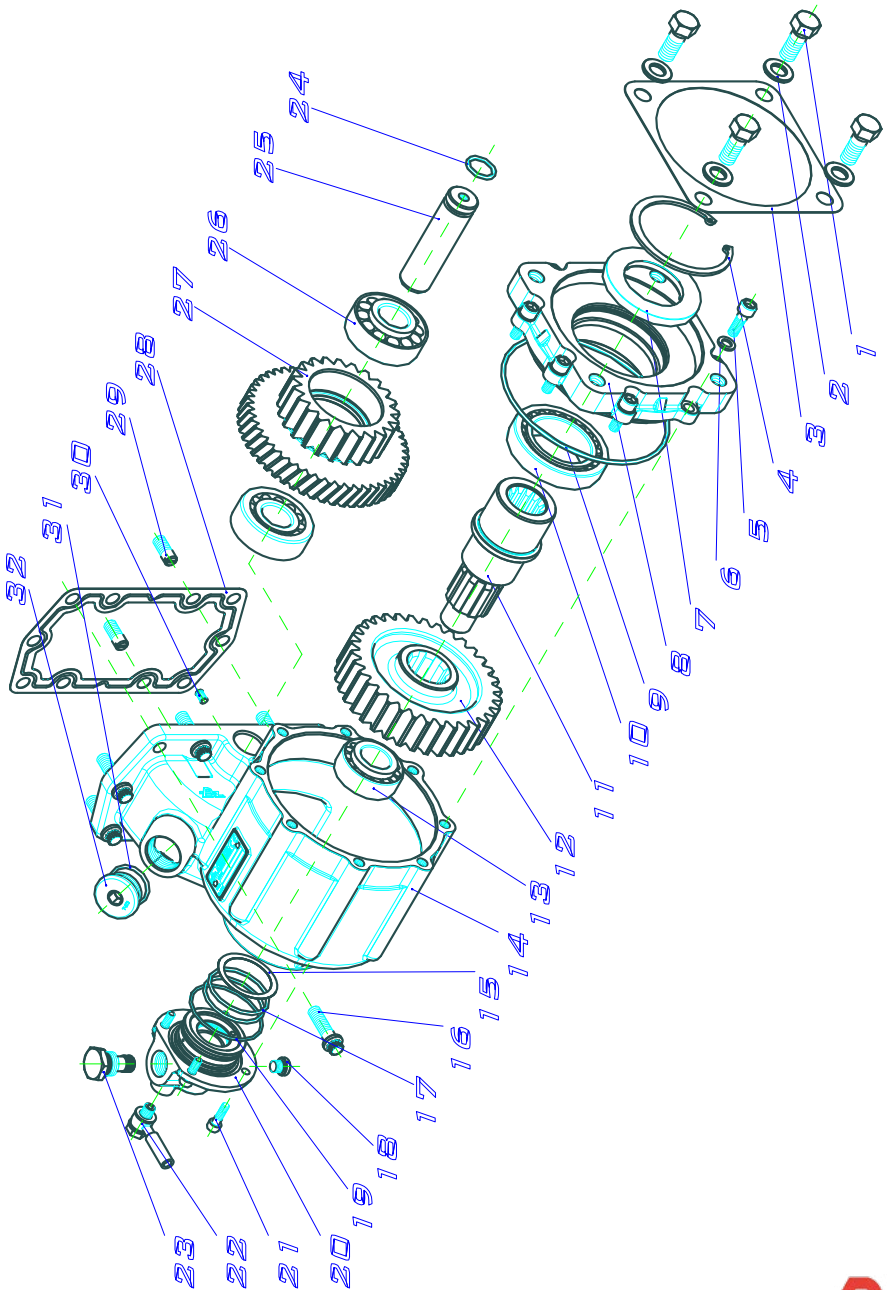
Once all of the answer to these questions have been determined, a transmission mounted P.T.O. can be selected to meet the horsepower, speed and rotation that you require.

Having made the selection of a P.T.O., you are ready to start the installation.

P.T.O. 3131 For World Transmission

6





Mounting P.T.O. To Transmission

8



Remove the pto's opening cover

The transmission's drive gear and opening will be visible



Clean the opening surface of paste or gaskets residues. Be careful to avoid damages or scratches in the opening's surface

Fit the guides with a screwdriver. Use loctite to avoid unscrewing them



Place the steel gasket using grease, if necessary, to keep it in position
The ribbed surface should face towards the installer

Fit at least with 4 bolts in each corner before checking the backlash



Unscrew the backlash check plug

Mounting P.T.O. To Transmission

Check the suitable backlash.
It should be between 0.006" and 0.015"



Screw the remaining bolts at 44 - 50 lb.ft
(60-68Nm)

Install the cartridge and tightening to
25 - 30 Lb.ft (35 - 40 Nm).
Alternatively, for easy installation, it
can be installed on the pto before it
being placed on the transmission



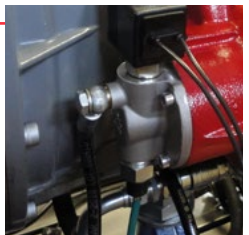
Place the coil. Ensure the O-rings are in
place to avoid water leaks inside the coil

Install the pressure switch.
Alternatively, for easy installation, it
can be installed on the pto before it
being placed on the transmission



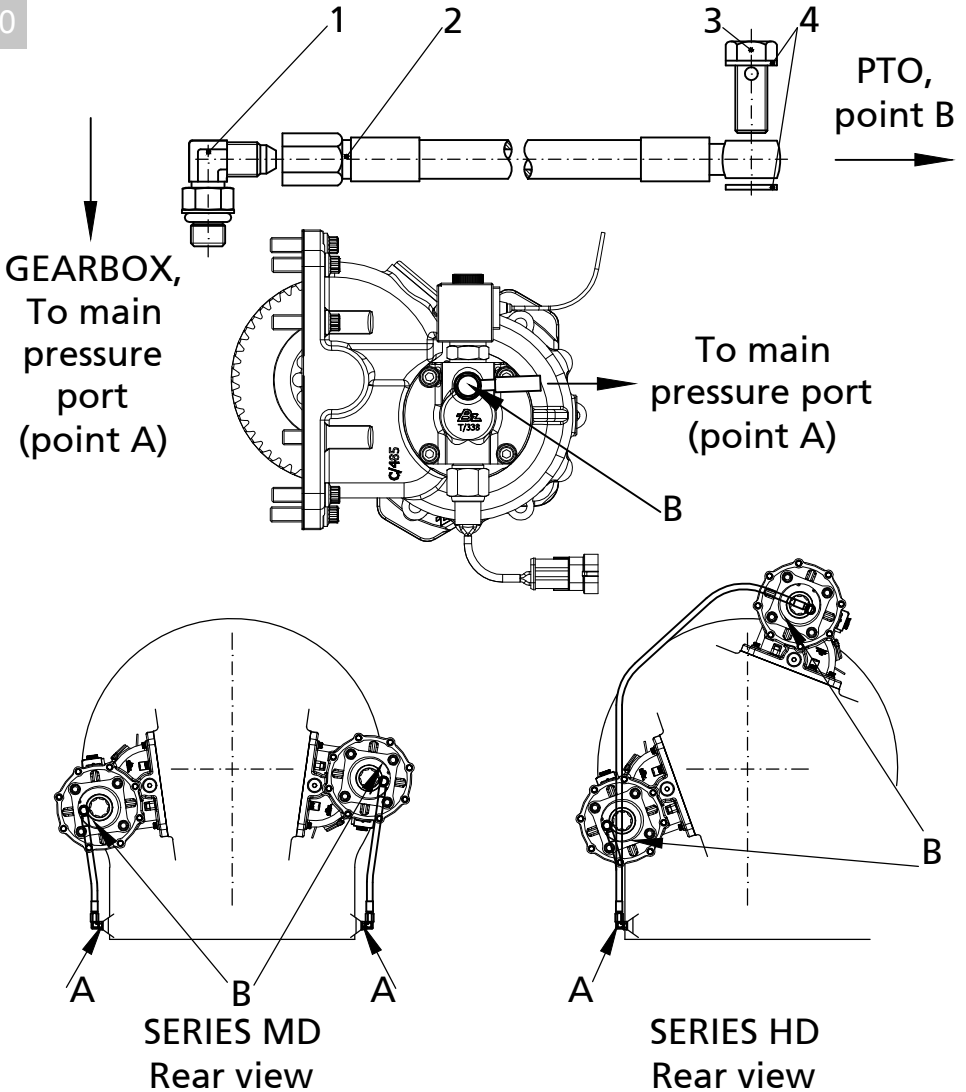
Install the fitting to transmission
according to the suitable port
specified in page 12, tight to
8 - 10 Lb. Ft. (11 - 14 Nm)

Install the other end of the the pressure
line in the pto.
Tight to 12 - 14 Lb. Ft. (18 - 20 Nm)



Mounting Instructions Shifting Kit

10

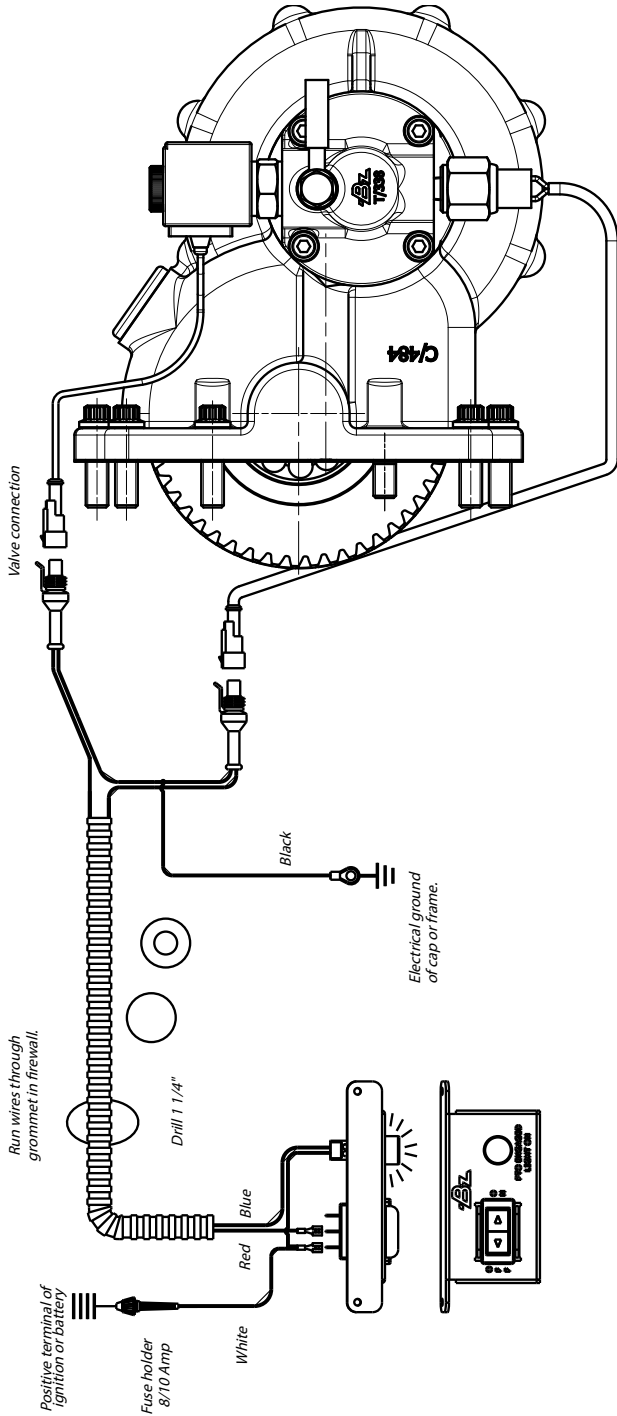


CONTENT DESCRIPTION

- 1 - Fitting
- 2 - Hose
- 3 - Fitting
- 4 - Washer

- 1.- Remove the gearbox plug in position (A) and fit the fitting available in the kit (1).
- 2.- Remove the protection plastic plug placed on the PTO (B).
- 3.- Fit the shifting pipe (900899.2) on the (A) and (B) position by means of the hose (2) and fitting (3) and checking for proper oil level and signs of oil leakage, the best check is conducted with the transmission at operating temperature.

Shifter Component 3131 Series Installation Sketch

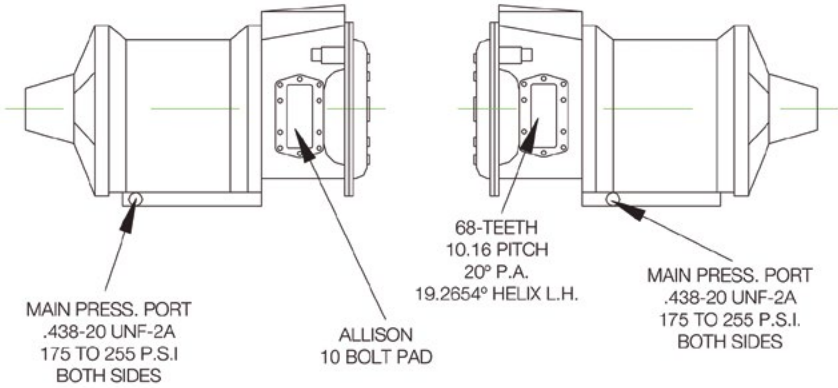


Pressure Port and Aperture Identification

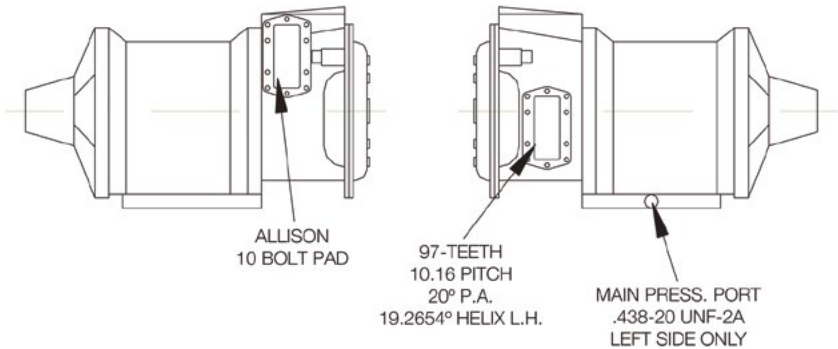
12

THESE DRAWINGS REPRESENT LEFT AND RIGHT VIEWS OF THE MD AND HD PRESSURE PORT ON THE TRANSMISSION.

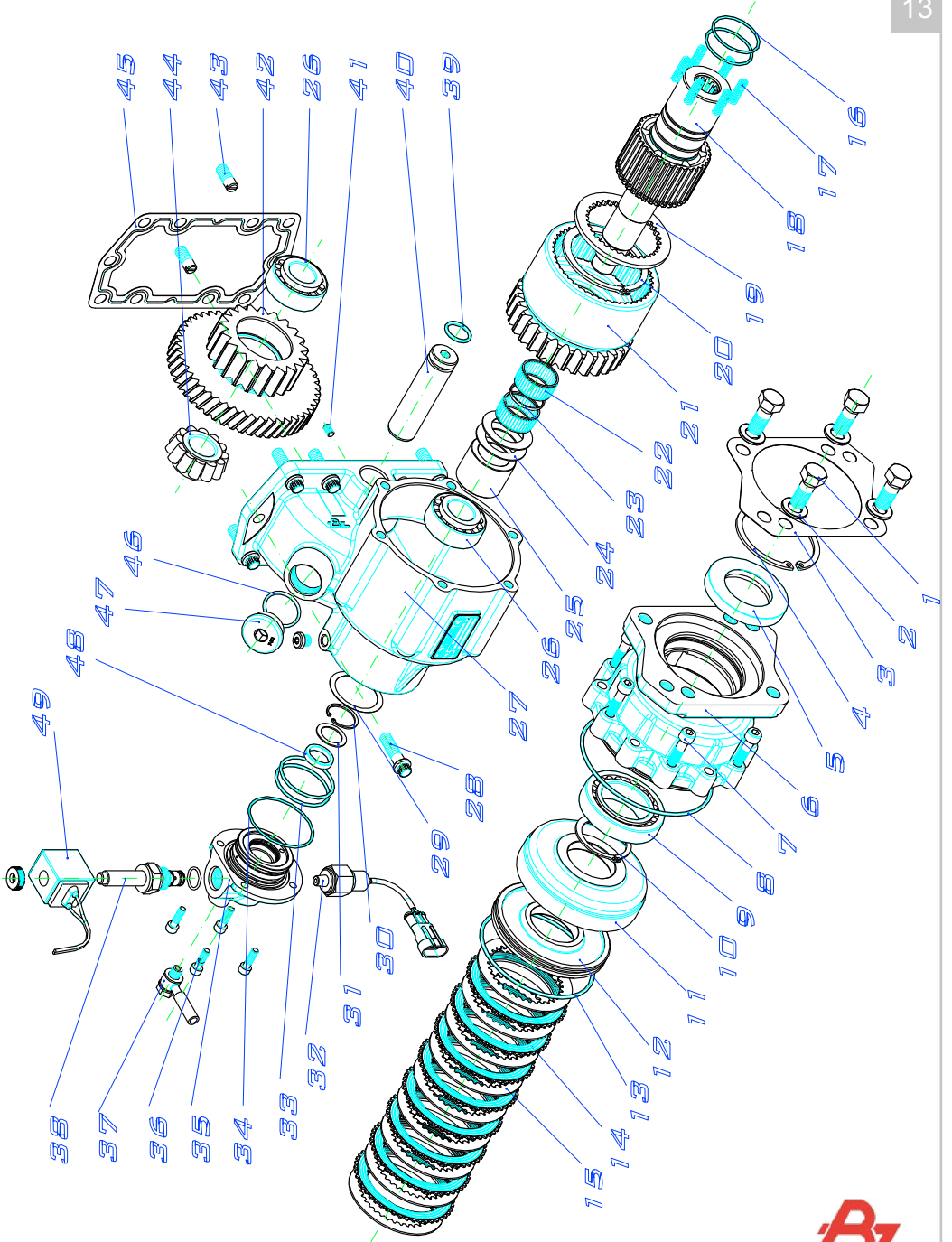
MD



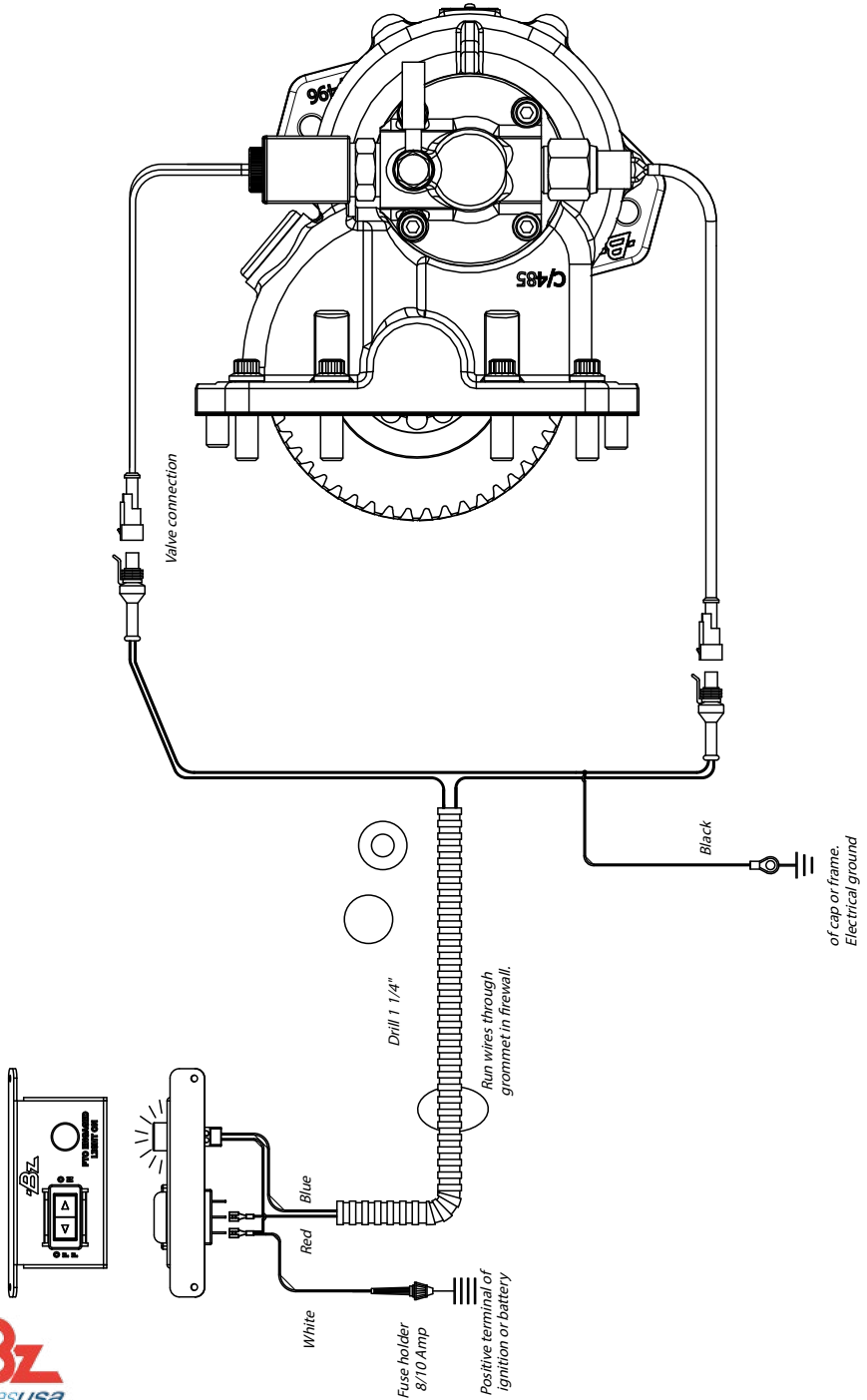
HD



P.T.O. 3252 For World Transmission



Shifter Component 3252 Series Installation Sketch



CAUTION: This vehicle is equipped with a Power Take-Off. Shut engine off before working on the Power Take-Off or getting below the vehicle.

Consult the operating instructions before using the P.T.O. (see sun visor)

POWER TAKE-OFF OPERATION- VEHICLE STATIONARY

Automatic Transmission with Power Shift P.T.O.'s

Engage the P.T.O. with the engine at idle speed.

NOTE: Power Shift P.T.O.'s: The engine must be at idle or below 1000 RPM when the P.T.O. is engaged. See the transmission manufacturer's instructions for special procedures.

IMPORTANT:

Failure to follow the proper shifting or operating sequences will result in premature P.T.O. failure with possible damage to other equipment.

Warning: Cold Weather Operation of Power Shift P.T.O.'s

During extreme cold weather operation [32°F (0°C) and lower], a disengaged Power Shift Power Take-Off can momentarily transmit high torque that will cause unexpected output shaft rotation. This is caused by the high viscosity of the transmission oil when it is extremely cold. As slippage occurs between the Power Take-Off clutch plates, the oil will rapidly heat up and the viscous drag quickly decreases.

The Power Take-Off output shaft rotation could cause unexpected movement of the driven equipment, resulting in serious personal injury, death, or equipment damage.

To avoid personal injury or equipment damage:

- Driven equipment must have separate controls.
- Driven equipment must be left in the disengaged position when not in operation.
- Driven equipment must not be operated until the vehicle is allowed to warm up.

