

**TO:** All Dealer Principals, Service Managers and Parts Managers

**Subject:** 2100 Plus Muncie CS10 & CS11 PTOs

**Number:** SB 265A **DATE:** 12/04/2013

### NOTICE



Follow recommended safety practices while performing all work. Refer to the Vactor/Guzzler Safety Manual for additional information.

This manual is available at: [www.vactor.com](http://www.vactor.com)

#### PURPOSE:

Vactor Manufacturing has experienced shortened life on some CS10 and CS11 Muncie (PTO's) power takeoffs. The primary failure mode has been idler gear bearing failures. Failures have occurred in operating ranges from 500 to 2900 hours. The spacer that sets the tapered roller bearing can wear under certain conditions causing excessive bearing end play and leads to potential failure.

The source of the vibration that causes this phenomenon is unknown. One known, significant drivetrain vibration source is the torsional vibration of the diesel engine. This vibration caused by the detonation of the air- fuel mixture every time a cylinder fires is known to be quite violent and quite different between engine makes and models.

Muncie Power Products continually seeks to develop designs to endure the ever-changing system environment. The introduction of hardened washers to separate the housing from the bearing cones, whose geometry prevents their rotation, has been accomplished to be wear resistant to this relatively light load wear. This new design does not address the external vibration that is the root cause, but provides an assembly that is more robust with respect to its operating environment. These design changes were implemented in Vactor production starting in June 2012.

It is difficult to define the exact environmental situations that determine if a PTO could be experiencing this type of wear. Oftentimes, external vibration that is a source of wear can be caused by a combination of unknown factors present within the chassis. Vactor recommends all units be inspected as soon as possible and PTO's replaced as needed. While this vibration related wear is not a manufacturing defect it is recommended that units exhibiting this phenomena be replaced. Failure to replace units exhibiting wear could result in shortened product life and damage to associated components. PTO units that have been in service less than 24 months are covered under a manufacturer's warranty. Please refer to your local

**PARTS AVAILABILITY:** January 2014

Vactor representative to schedule an inspection as quickly as possible.

#### UNITS TO SERVICE:

2100 Plus units with Allison 3000 and 4000 series transmissions built between 10-01-2009 through 10-01-2011.

#### WARRANTY COVERAGE:

Refer to next page of this bulletin for warranty instructions.

#### SPECIAL TOOLS:

NA

#### PARTS REQUIRED:

Special kit part numbers have been set up for replacement. These kits do not include shift solenoids or hoses. Consult Vactor Service for any PTOs not listed.

Vactor Part No.	Muncie Model No.
49794R-30	CS11-A1008-H1CX
49769R-30	CS11-A1008-H3CX
46675AJR-30	CS11-A1006-H3EX
46675AMR-30	CS11-A1005-H3CX
46675RR-30	CS10-A1008-H3CX
46675AAR-30	CS10-A1008-H1CX
46675AKR-30	CS11-A1006-H3CX
49832R-30	CS11-A1010-H1CX
46675ALR-30	CS11-A1006-H1CX
49831R-30	CS11-A1010-H3CX
46675JR-30	CS10-A1005-H3CX
46675BCR-30	CS10-A1006-H3EX
46675AHR-30	CS10-A1010-H3CX

**PROCEDURE:**

1. Shut down the unit on level ground, set the brake and follow lockout/tagout procedures.
2. Remove the PTO.
3. Refer to the attached inspection procedure and perform the inspections.
4. Reinstall the PTO.
5. Verify correct operation and service as required.

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**Warranty Coverage and Claim Submittal**

**Warranty coverage does not apply. Special PTO discounts have been allocated to assist customers beyond the warranty period. Special pricing will be available through 12/31/2014.**

Unit serial number **MUST** be submitted with each order. Only one set of PTOs/Unit per part order allowed.

Consequential damages will not be covered by warranty or policy.

The new special kit part numbers must be used when ordering.

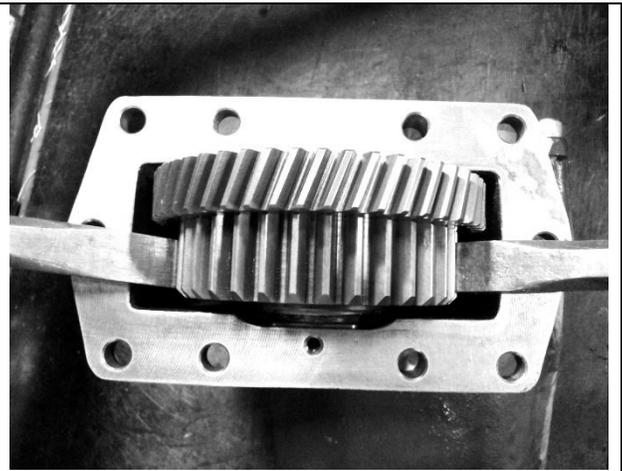
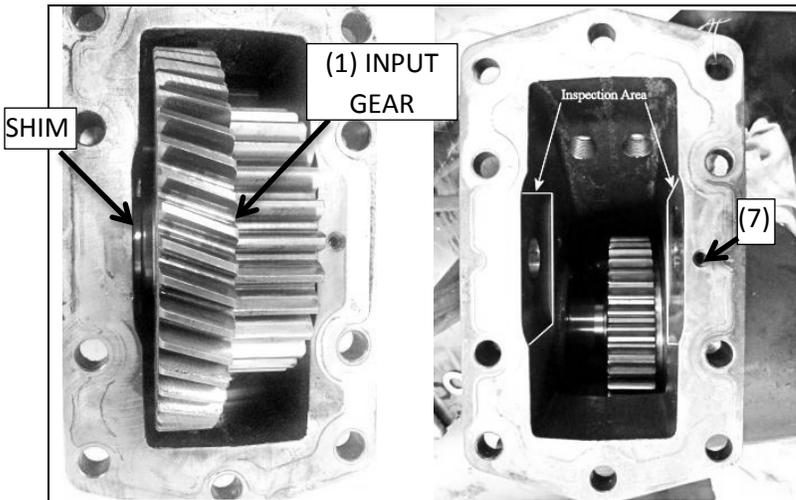
The unit serial number must be used as the parts purchase order for tracking purposes.

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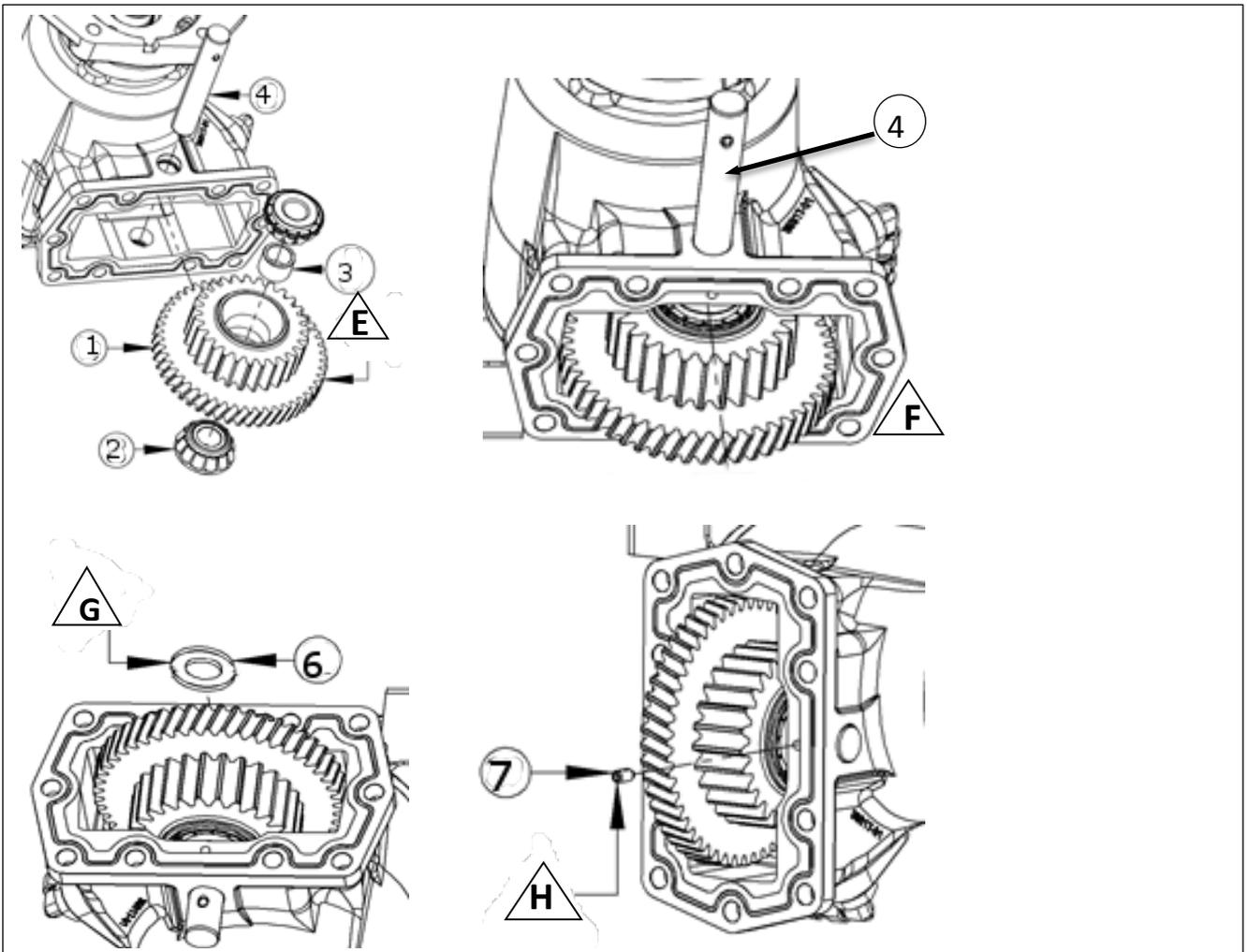
## CS10 OR CS11 SERIES Disassembly and Reassembly

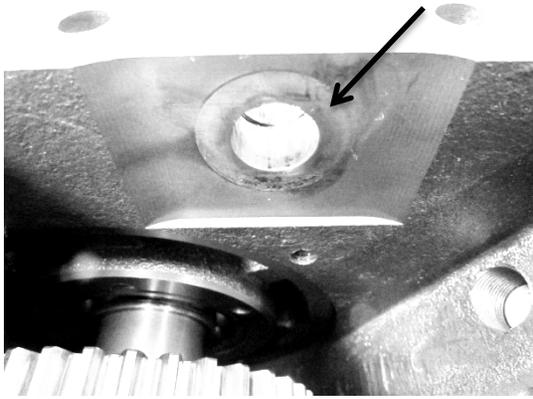
### Disassembly Procedure

- A. Make a note of the position of the input gear within the housing and the bearing shim next to the gear. Remove the CS10/11 input gear (1) by removing the set screw (7) in the mounting pad and driving the idler shaft (4) from the housing.

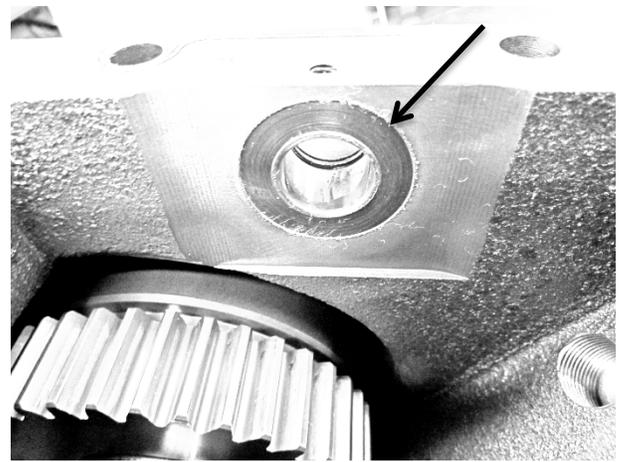


- B. Pry the input gear gently from housing using two pry bars.



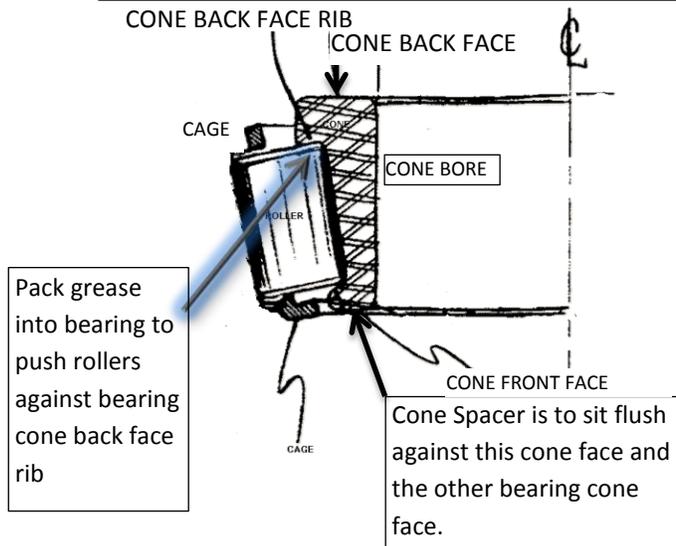


Inspection of the Housing. The area around the idler shaft shows little to no wear. This is an example of no wear.



If the Area around idler shafts shows wear, then the unit needs replacing.

**NOMENCLATURE OF A TAPERED ROLLER BEARING**



Reassembly Procedure

**C.** The reassembly of the unit is made in reverse of the disassembly.

**D.** Be sure to lubricate all O-rings (located in the housing idler shaft holes) and pack the bearings with grease prior to installation. Using the bearing grease, make sure the large ends of the tapered rollers are all seated against the cone back face rib.

**E.** The input gear (1) is replaced as a set which includes the gear, cone spacer (3) and bearings (2). Slide this sub assembly into the housing to line up the idler shaft (4). The cone spacer (3) must sit flat against the end of the bearing cones and not against the bearing cage. Check the alignment before you insert the idler shaft.

**F.** Position the idler shaft so the set screw holes will align when idler shaft is finally installed in the housing. Tap the idler shaft into the housing and through the bearing races.

**G.** Tap the idler shaft in the reverse direction so that it is flush with the bearing in this assembly. Insert the shim (6)

**H.** Tap the idler shaft (4) into position and install the set screw (7). Torque **Set Screw 9 Ft. Lb.**