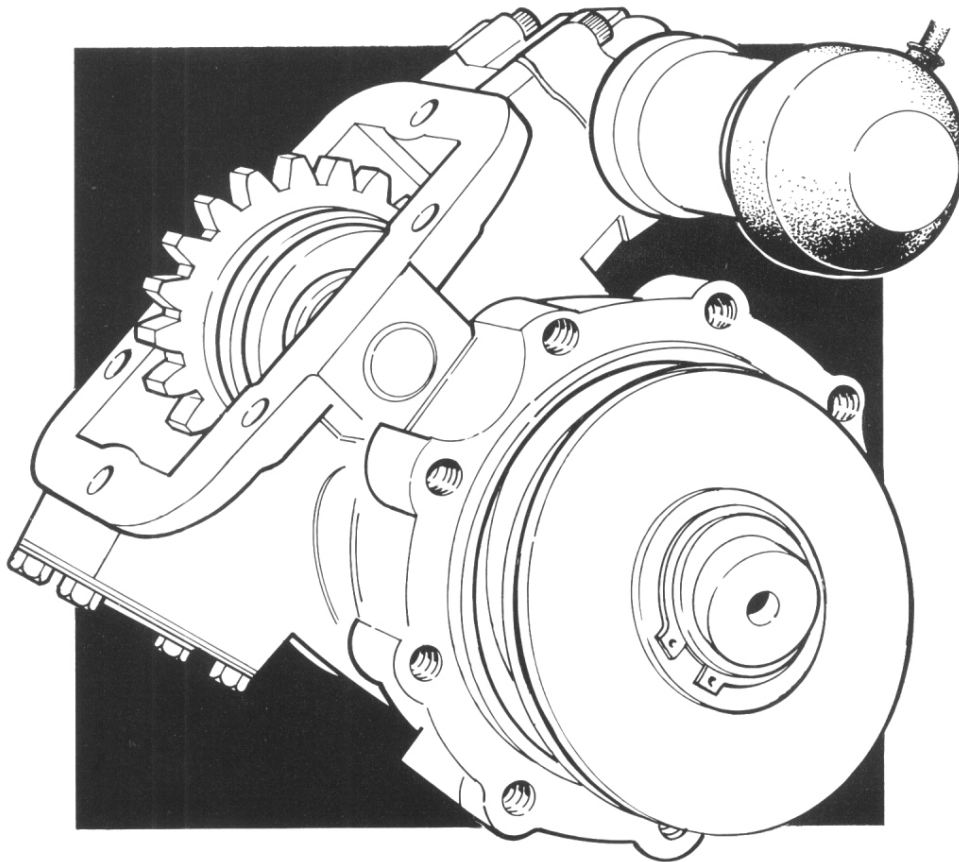


SERVICE INFORMATION



POWER-TAKE-OFF UNIT PTO 400 SERIES

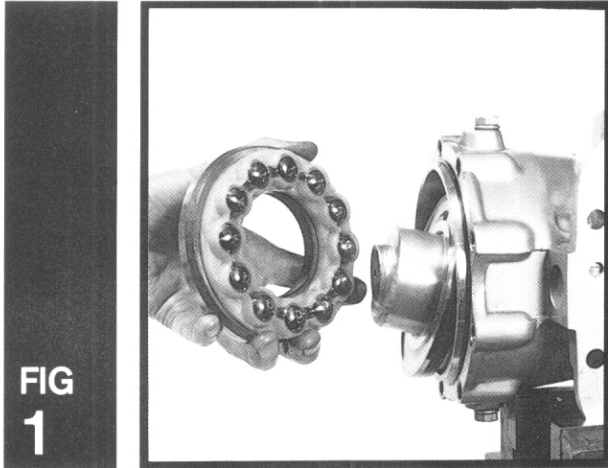
Edbro

QUALITY, TECHNOLOGY
AND ACHIEVEMENT

POWER-TAKE-OFF ASSEMBLY PTO 408

TO DISMANTLE POWER-TAKE-OFF

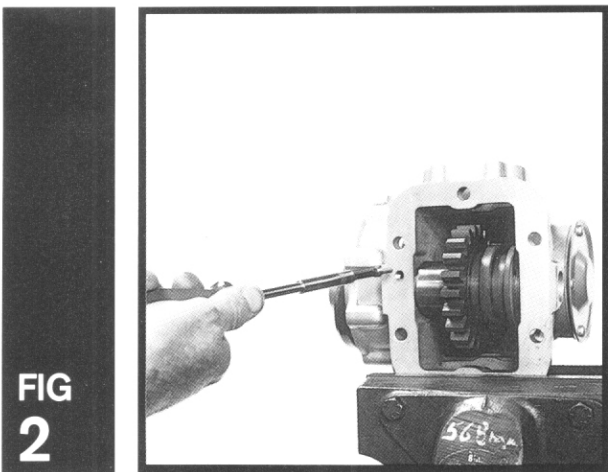
- 1 Remove pump from power-take-off (refer to section "Pumps").



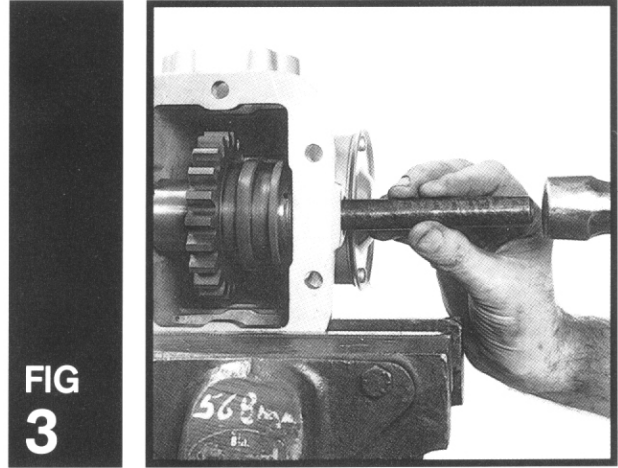
- 2 Remove outer thrust race and bearing ① from wobble shaft ② (Fig 1).

NOTE: Inner thrust race on wobble shaft must only be removed if bearing assembly is to be renewed.

- 3 Unscrew the four socket head cap screws (Refer to section "PTO Controls") and remove PTO control unit and packing seal from PTO casing.
- 4 Unscrew the four setscrews and spring washers ③ ④. Remove cover plate ⑤ and packing seal ⑥ from PTO casing ⑦.

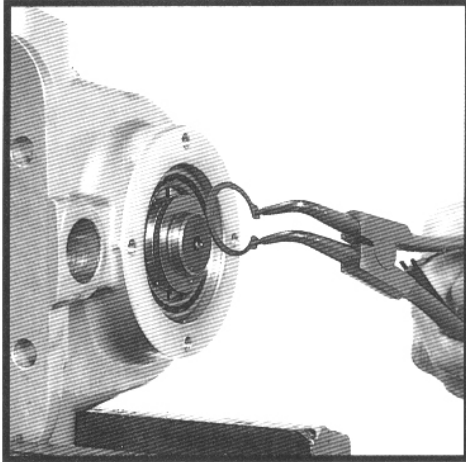


- 5 Using a screwdriver remove grub screw ⑧ from mounting face, which secures the countershaft ⑨ to casing (Fig 2).



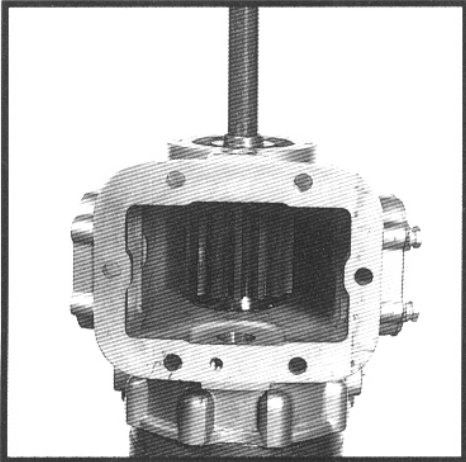
- 6 Using a drift, tap out the countershaft ⑨ (Fig 3).
- 7 Remove the front gearwheel assembly, which contains: sliding gearwheel ⑩, steel sleeve ⑪, 50 off - loose needle rollers ⑫, distance piece ⑬, drive key ⑭, two thrust washers ⑮.
- 8 Examine all these parts for wear and replace if necessary.
- 9 Remove the four screws ⑯ securing cover plate ⑰ to PTO casing.
- 10 Remove cover plate ⑰ and gasket ⑱.

**FIG
4**



- 11 Remove circlip ⑳ on end of wobble shaft ② (Fig 4).
- 12 Collect thrust washer ㉑.

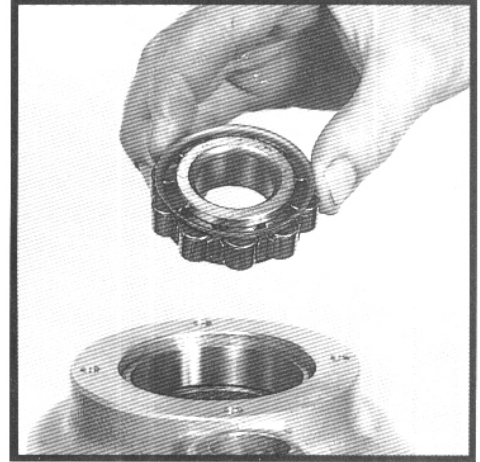
**FIG
5**



- 13 Using a bench press or a drift, tap out the wobble shaft ② from PTO casing and remove (Fig 5).
- 14 Collect distance pieces ㉒ & ㉓ and rear gearwheel ㉔ from inside casing. Examine gearwheel teeth for signs of wear. Replace if necessary.
- 15 Taper roller bearing ㉕, which remains on shaft, and bearing outer race which remains in PTO casing, must only be removed if they are to be renewed.
- 16 Remove the oil seals ㉖ from PTO casing.
- 17 Examine all polished surfaces of the wobble shaft ② for marks or pitting.

NOTE: If the shaft is marked or shows signs of wear near the oil seals, the shaft should be replaced.

**FIG
6**



- 18 Remove roller bearing ㉗ from PTO casing (Fig 6).
- 19 Remove "O" ring seal ㉘ from face of PTO casing.

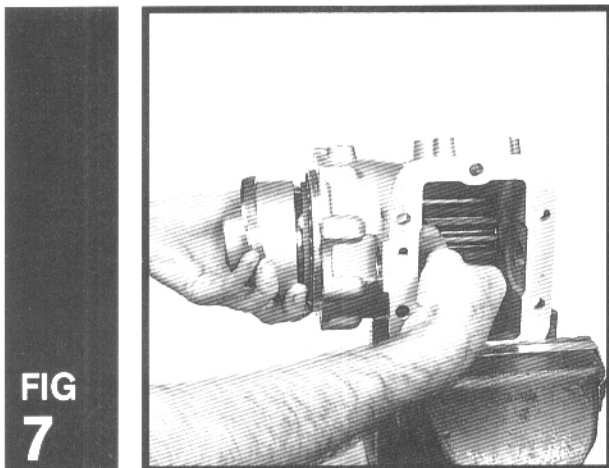
TO ASSEMBLE POWER-TAKE-OFF

NOTE: Lubricate all moving parts on assembly with a light viscosity oil.

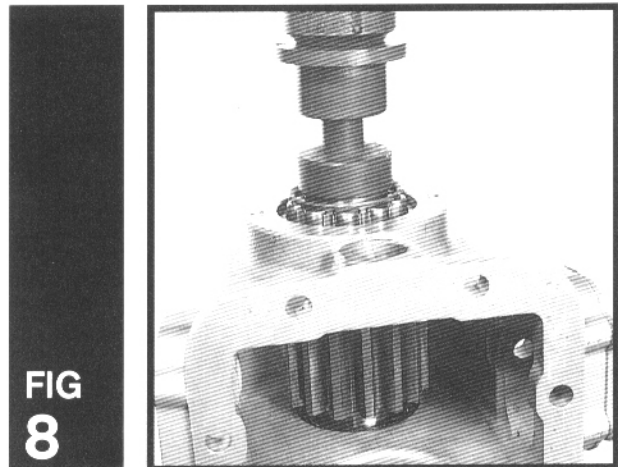
- 1 Fit two new oil seals (26) inside the PTO casing (7) and grease the inner lips of the seals.

IMPORTANT: The oil seals have to be fitted “back to back”, which means the lips are facing outwards.

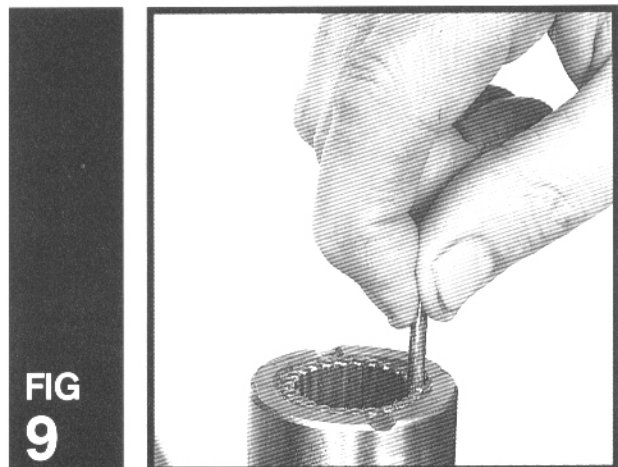
- 2 If wobble shaft bearing (25) has been renewed, press bearing outer race into PTO casing and the taper roller bearing onto the wobble shaft (2).
- 3 If thrust bearing (1) has been renewed, press inner thrust race of bearing onto end of wobble shaft.
- 4 Tap the drive key (29) into wobble shaft (2) and remove all burrs and sharp edges.
- 5 Place the rear fixed gearwheel (24) in position inside PTO casing (7).



- 6 Install wobble shaft (2) into PTO casing taking care not to damage the oil seals (26), with drive key in line with the keyway in bore of gearwheel (24). (Fig 7).
- 7 Slide distance pieces, first (23) then (22) onto wobble shaft (2).
- 8 Place PTO assembly in a vertical position and support the unit from the underside.
- 9 Locate back roller bearing (27) against the PTO casing and line up with wobble shaft (2).

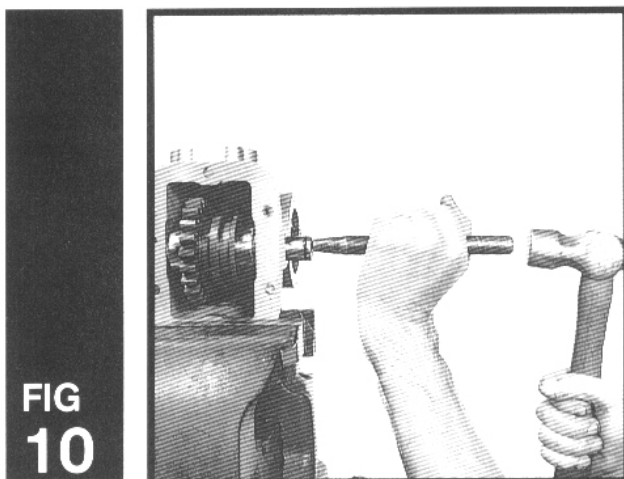


- 10 Press the bearing (27) into PTO casing and at the same time onto the end of wobble shaft (Fig 8).
- 11 Position thrust washer (21) and fit the circlip (20) into shaft groove.
- 12 Refit cover plate (18) and new face gasket (19) and secure with the four screws (16).
- 13 Smear the bore of the steel sleeve (11) with a thick coat of high melting point grease (Edbro type EG10).

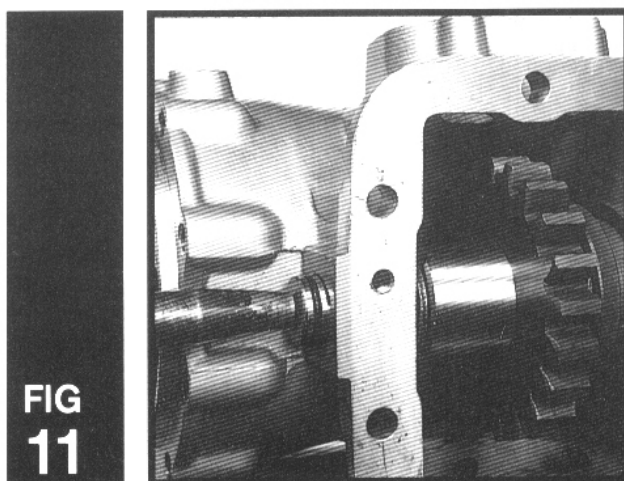


- 14 Install spacer (13) to centre of sleeve and assemble twenty five needle rollers (12) either side of spacer and press firmly into the grease (Fig 9).
- 15 When all the rollers (12) are assembled pass countershaft (9) through the sleeve to line up the needle rollers correctly and to secure them into the grease.

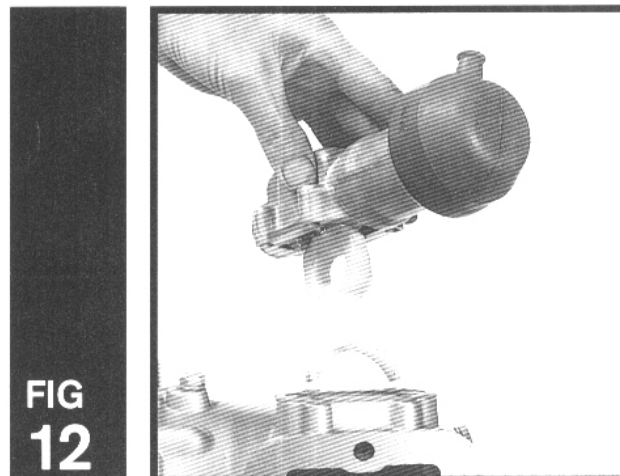
- 16 Tap the drive key ⑭ into position on gearwheel sleeve ⑪.
- 17 Place sliding gearwheel ⑩ onto sleeve ⑪ ensuring that the slot in bore of gearwheel engages the drive key.
- 18 Position thrust washers ⑯ at each side of the sleeve.
- 19 Fit first "O" ring seal ⑳ to plain end of counter shaft ⑨ i.e. end without flat.
- 20 Support front wheel assembly with thrust washers in PTO casing ready to accept countershaft.



- 21 Push countershaft ⑨ into casing hole, end with flat first and through front gearwheel assembly. Ensure shaft is pushed out at opposite end to allow second "O" ring seal ㉑ to be fitted into "O" ring groove (Fig 10).



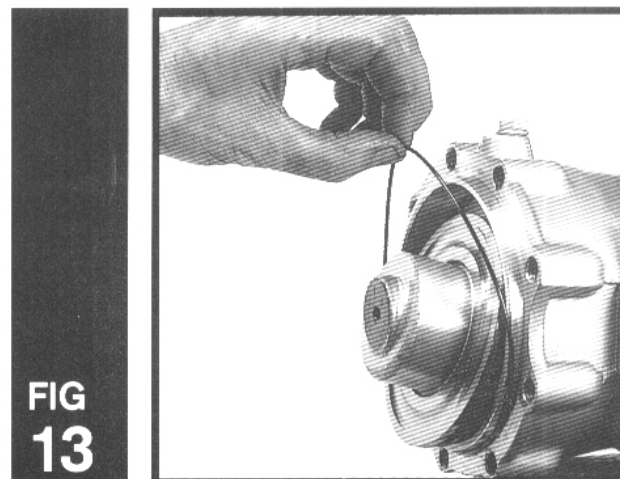
- 22 Align flat on countershaft with grub screw hole, then push countershaft back into casing and secure with grub screw ⑧ (Fig 11).
- 23 Check that both gear wheels revolve smoothly.



- 24 Refit PTO control unit (air or cable) with new face packing and secure with the four socket head screws (Fig 12). Torque rating 45-50 Nm. (Refer to section PTO controls).

NOTE: Ensure that PTO control fork is fitted in groove nearest to teeth on gearwheel.

- 25 Replace cover plate ⑤ with new packing seal ⑥ to casing and secure with setscrews ③ and spring washers ④. Torque rating 45-50 Nm.
- 26 Assemble thrust bearing ① to end of wobble shaft ensuring thrust plate is on outside.



- 27 Place new "O" ring seal ㉒ onto joint face of PTO and pump (Fig 13).
- 28 Fit pump assembly to power-take-off. (Refer to section "Pumps").