



# Weasler®

56-15179 REV DATE: 07-2021



## Instruction Manual – English - GB

### 1. General

This instruction manual should be read completely by the user before starting to use the Weasler PTO drive shaft. Also read the instruction handbook of recipient machinery. Be certain that only a properly trained and physically able person will install and maintain the drive shaft.

It is not allowed to use the PTO drive shaft without guard, with a damaged guard or without using the restraining members correctly attached. A PTO drive shaft guard restraining system is required in the European Union (EU) countries. Worn or damaged parts must be replaced with original Weasler parts before operating. Do not expose guarded parts of the shaft by cutting or enlarging the grease access holes. Do not step on, over or under a PTO drive shaft.

PTO drive shafts and (safety) clutches have to match the power take off and the machine type. See the instructions with your machine for recommended type and size of shaft and clutches. Overload can cause damage. See also table 1 for nominal load for each design drive shaft. Do not operate above recommended speeds.

It is not allowed to connect clutches to the tractor PTO in the European Union (EU) countries.

After operation, parts of the PTO drive shafts (e.g. clutches) can reach high temperatures. Do not touch!

No device (e.g. adaptors) shall be installed between the tractor PTO and the PTO drive shaft. Except length adjustment, no changes may be made to the PTO drive shaft and its guard. Always make sure machine is completely shut down if working around, on, or removing blockages.

A PTO drive shaft transmits power from the tractor to the implement. The main components of a PTO drive shaft are mentioned in Figure 1.

1 = PTO Yoke; 2 = Journal Cross Assembly; 3 = PIC Yoke / Safety Clutch

4 = Inner Yoke & Telescoping Members; 5 = PTO Drive Shaft Guard; 6 = Restraining Member

### 1.1. Explanation of the symbols used on the PTO drive shaft guard:

Fig. 2a: Read the operator's manual always!

Fig. 2b: Do not open or remove safety shields while machine or PTO drive shaft is running!

Fig. 2c: Do not operate without all PTO drive shaft guards, tractor, and implement shields in place.

Fig. 2d: Assemble PTO drive shaft with arrow pointed to the tractor.

Fig. 2e: This PTO drive shaft is suitable for use with tractor or self-propelled machine and power receiving machine guarding combination as specified in the operator's manual.

Fig. 4a: Do not operate if the overlap is less than this 50 mm when in a straight line.

Fig. 4b: Maintain proper clearance between PTO drive shaft guard and PIC shield.

## 2. Coupling the PTO drive shaft

Turn off the tractor completely! Clean and grease the tractor PTO and the machine PIC (Power Input Connection). Attach the PTO drive shaft to the implement PIC first and then to the tractor PTO. On the PTO drive shaft guard is indicated which side of the shaft should be connected to the tractor (Fig. 2e). Return tractor PTO master shield to operating position if moved for drive shaft attachment.

The end yokes of the PTO drive shaft can have the following means of attachment:

- **QD-Pin (Fig. 3a):** Press the pin in and simultaneously slide the PTO drive shaft onto the PTO or PIC until the pin fully engages. Not to be used for ground driven implements or type 1 (1 3/8-6 spline) front tractor PTO connections or in yokes without torque limiter.
- **Spring Lock (Fig. 3b):** Slide the yoke partially on the PTO or PIC and then slide and hold the collar rearward. Then slide the yoke on the PTO or PIC until the collar can be moved forward into the locked position.
- **Clamp-bolt (Fig. 3c):** Remove the bolt out of the end-yoke. Slide the yoke onto the PTO or PIC and assemble the bolt & nut (nut must trail direction of rotation). The nut should be tightened sufficiently (M12 = 91Nm; M16 = 226Nm; ½ -13 = 101Nm; 5/8-11 = 204Nm).

Always double check if the end yokes are securely locked!

To avoid damage to the driveshaft guard, it may be necessary to remove the tractor drawbar for mounted and semi-mounted implements and the lower links secured in a suitable position for trailed machines.

## 3. Guarding

Check the guard of the PTO drive shaft and the PTO & PIC shield for damage. Damaged or missing guards must be replaced before operating the machine! PIC shield must fully enclose drive shaft on all sides up to first bearing on implement. After connecting the PTO drive shaft to the implement, always check for sufficient overlap between the PIC guard and the PTO drive shaft guard (see Fig. 4a). Do not



During transport and not in operation, always ensure a minimum of 100 mm overlap (Pu). The minimum operating length of the PTO drive shaft should be longer than the compressed length (Lz).

## **7. Disassembly of the safety guard**

Unlatch the bearing tabs from the inside of the guard cone through the three holes by pushing in with a screw-driver (Fig. 7a). Remove the guard cone (Fig. 7b). Slightly separate the bearing to disengage from the yoke bearing groove (Fig. 7c). Remove the guard tube and bearing.

## **8. Length adjustment (profile tubes)**

Any modification to the length of the shaft must be done by specially trained people only. Contact your dealer!

To adjust the length on the profile tubes, place the half shafts next to each other in the shortest working position and mark them (Fig. 8a).

Shorten inner guard tube as marked, shorten outer guard tube 40 mm shorter as inner guard tube. Shorten inner and outer profile tubes by the same length as the inner guard tube (Fig. 8b). Round off all sharp edges and remove burrs (Fig. 8c). Remove all debris. Grease the outside of the inner profile tube over its full length (Fig. 8d).

## **9. Assembly of the safety guard**

Grease the yoke bearing groove fully around (Fig. 9a). Place the bearing in the groove of the yoke (Fig. 9b). Slip on the guard tube on, lining up holes in the tube with pins in the bearing (Fig. 9c). Slightly separate the bearing and insert pins into holes in the tube (Fig. 9c). Slide guard cone over guard tube (Fig. 9d). Align slots inside guard cone with bearing tabs (Fig. 9e). Push until it clicks and cannot be removed manually.

## **10. Maintenance**

Before putting into operation or after any prolonged period of not using or after seasonal storage, inspect the shaft carefully. Lubricate the PTO shaft as described in #10.1. Inspect the whole safety guard of the shaft, as well as the PTO shield and the PIC shield. If the guard of the PTO drive shaft does not rotate free from the shaft, has missing parts, is damaged, or the safety signs are missing or illegible, the parts must be repaired or replaced. Replacing or repairing should be done by your dealer. Make sure the PTO drive shaft is stored in a manner which will not damage the guard of the PTO drive shaft.

Store your equipment inside and do not allow the PTO drive shaft to rest on the ground. Rust and mud may interfere with the shaft's locking devices and other parts of the PTO drive shaft.

### **10.1. Lubrication**

Lubricate the PTO drive shaft with high quality multi-purpose grease, meeting the N.L.G.I 2-Class (max 1% Molybdenum Disulfide). Follow recommendations as indicated in Fig. 10 (unless otherwise specified on the guard or in the machines user manual).

Replacement parts must be lubricated at the time of assembly and during use per the lube recommendations.

## **11. SAFETY CLUTCHES**

### **Shear bolt clutches (Fig. 11a)**

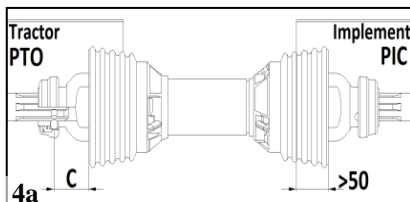
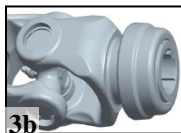
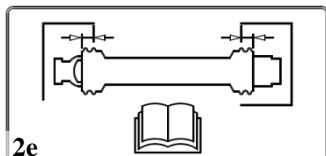
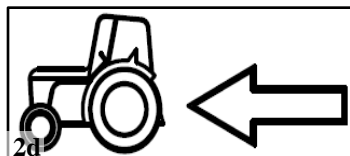
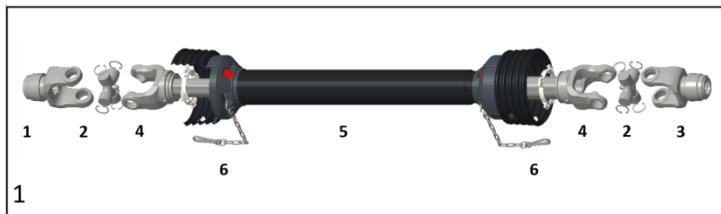
When the torque is exceeded, the bolt shears and the power flow is interrupted. The limited torque will be re-established by replacing the broken shear bolt. Replace sheared bolts with the manufacturer's recommended diameter, length and grade only! Lubricate the clutch every 250 shaft operating hours (14g).

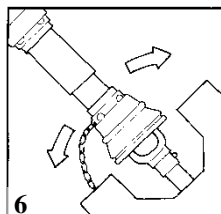
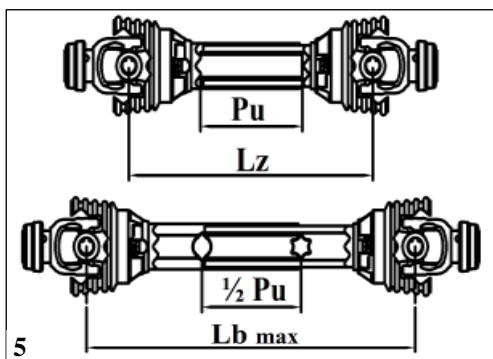
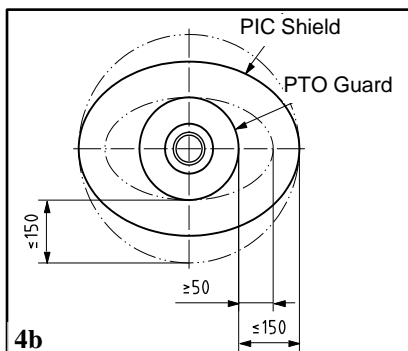
### **Overrunning clutches (Fig. 11b)**

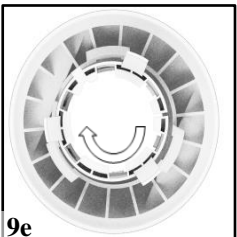
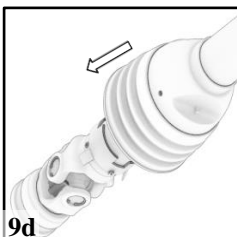
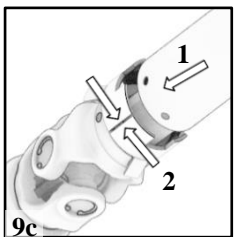
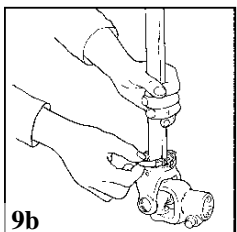
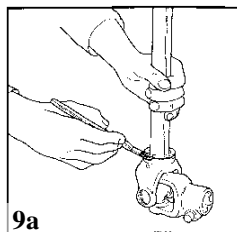
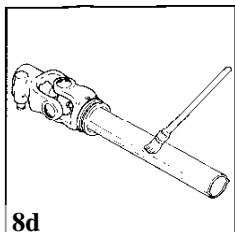
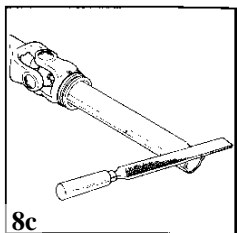
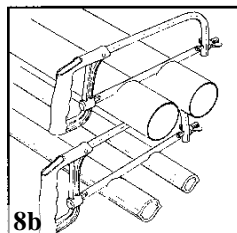
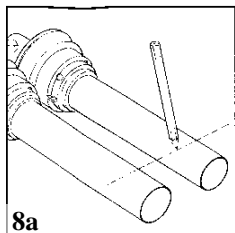
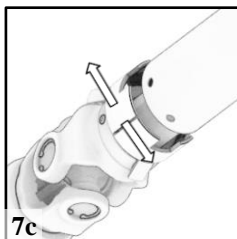
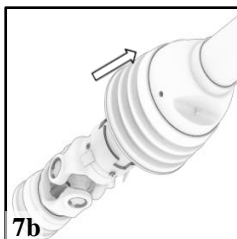
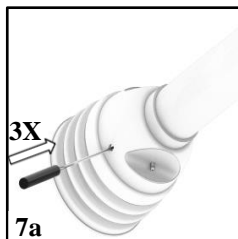
Overrunning clutches protect the driveline against heavy rotating masses. Lubricate the clutch every 250 shaft operating hours (14g).

**This product is marked CE in accordance with the relevant harmonization legislation: 2006/42/EC Machinery Directive.**

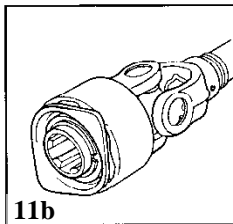
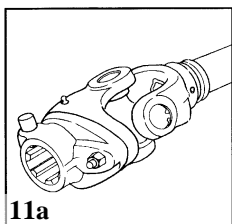
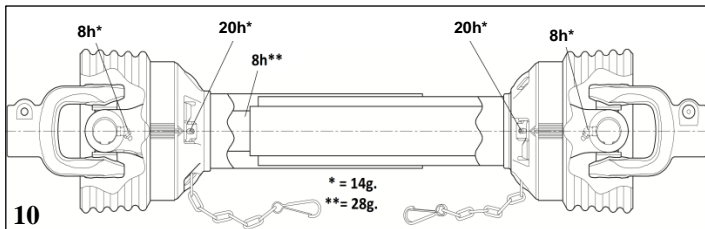
**See [www.weasler.com](http://www.weasler.com) for the latest declaration of conformity documents.**











**TABLE 1 - Nominal Operating Power \*  
& Guard Diameter**

PTO Drive Shaft Type	540 rpm	1000 rpm	maximum diameter -PIC end, mm		
	kW	kW	145	152	168
<b>AW10</b>	11	17	X		
<b>AW20</b>	16	25	X		
<b>AW21</b>	27	42		X	
<b>AW35</b>	39	60			X

\* universal joint angle 5° life 1000h

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