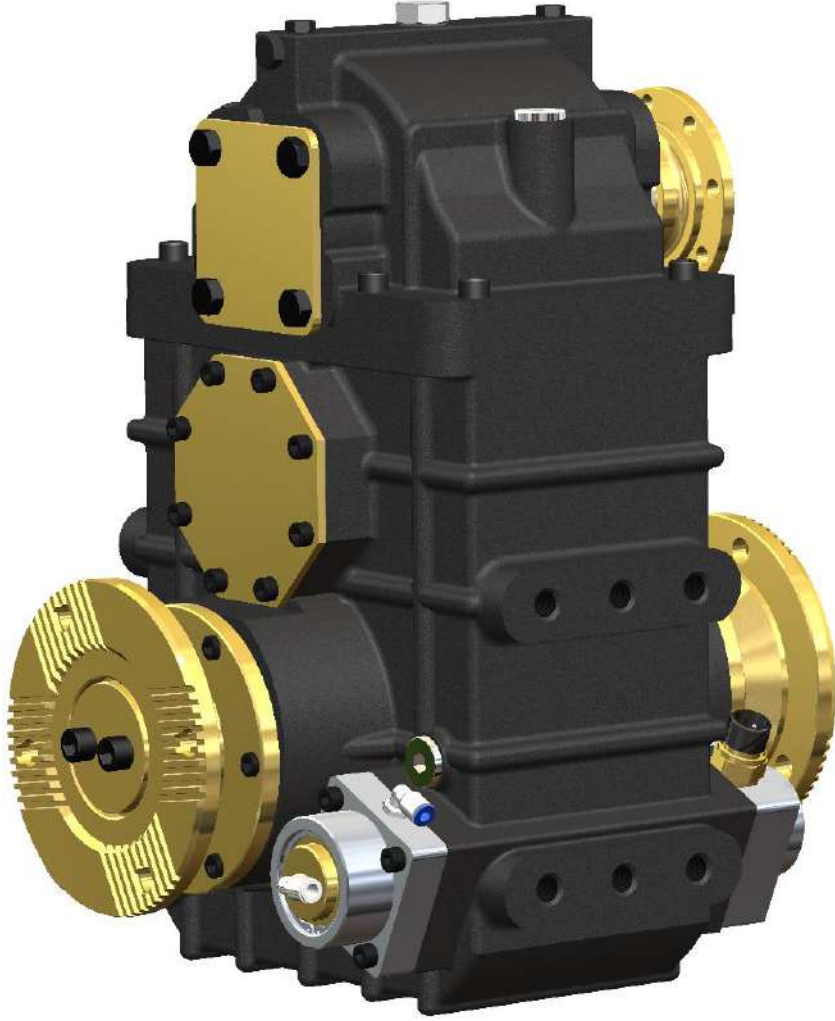




KOZANOĐLU KOZMAKSAN

HYDRAULIC PUMPS & POWER TAKE-OFFS MANUFACTURING LIMITED CO.

HİDROLİK POMPA ve ARA ŞANZİMAN PTO İMALAT SAN.LTD.ŞTİ.



UARA.2002 SPLIT SHAFT PTO

USER MANUAL



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The pictures used in this manual are for demonstration purposes and may not be identical to the actual purchased products.

Safety Information

The following information is for your safety. Make sure to read and understand them before attempting to use the equipment.

Overall Safety

- ✓ Carefully read the user manual provided and take notice of the instructions indicated.
- ✓ The important sections for operator safety and a prolonged product life are marked with symbols. Take notice of such symbols.
- ✓ Make sure to check if the instructions you follow and the tools you use are intended for the work you are engaging in.
- ✓ Never work alone when doing repair or maintenance works under the vehicle.
- ✓ Ensure to mount the parts properly.
- ✓ Never use worn or damaged parts.
- ✓ Do not attempt any modification on the split shaft PTO or any other drive components of the vehicle.

Instructions for Operation in Cold Weather

For prevention of injuries and damage to the gearbox;

- ✓ Check the drive components of the vehicle.
- ✓ Do not attempt to use drive components without warming up the vehicle for a minimum period of 5 minutes.



UARA.2002 Split Shaft PTO Features

UARA.2002 is a gearbox connected to the drive system of the vehicle, and provides:

- ✓ New equipment connection output,
- ✓ Rpm increase
- ✓ Change of axial distance

Features:

- UARA.2002 has three axes.
- Lubrication system is provided built-in on the system as a standard package. A cooling system can be integrated into this depending on the operating conditions.
- There are 2 equipment connection outputs on it.
- It can function when the vehicle is still or rolling.
- It has pneumatic control.

Technical Data

Input

Maximum Torque	2200 Kgm
Maximum RPM	-

Output

Power Value	185 Kw
Maximum RPM	2800-3600 RPM
Ratios	1/1 - 1/1.2 - 1/1.4 - 1/1.6 1/1.84 –1/2.25



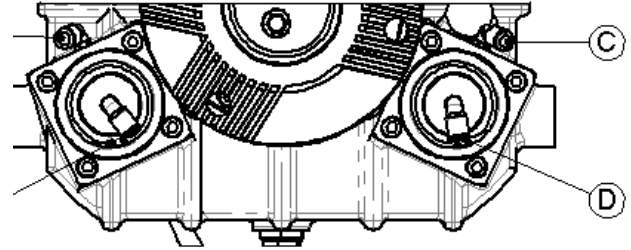
This split shaft PTO guarantees the indicated values provided that it is used in suitable conditions and safety rules are abided by.



Engage and Disengage

UARA.2002 is engaged-disengaged pneumatically by 4 pieces of single-acting rotating pneumatic cylinders (6 – 8 bar). The engage-disengage operation is done once the main shaft is totally motionless.

- A: Air Inlet (Engaging Top Output)
- B: Air Inlet (Disengaging Top Output)
- C: Air Inlet (Engaging Main Drive)
- D: Air Inlet (Disengaging Main Drive)



Split shaft PTO operation functions and air inlet controls are as follows.

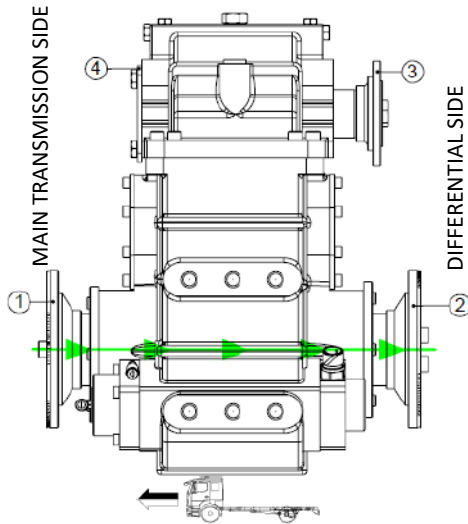


Figure 1

- 1) Drive operation (Drawing 1); First, (B) inlet is activated (The equipment disengages). Then, (C) inlet is activated. Air supply must continue throughout this operation (Air inlets are defined on Drawing 2).

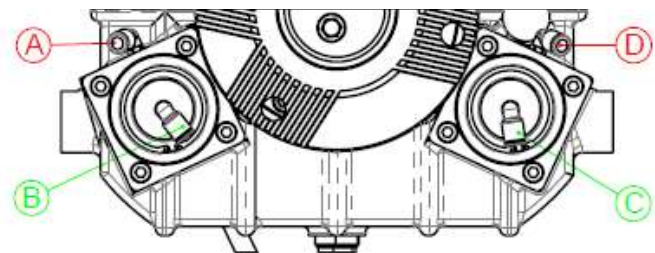


Figure 2

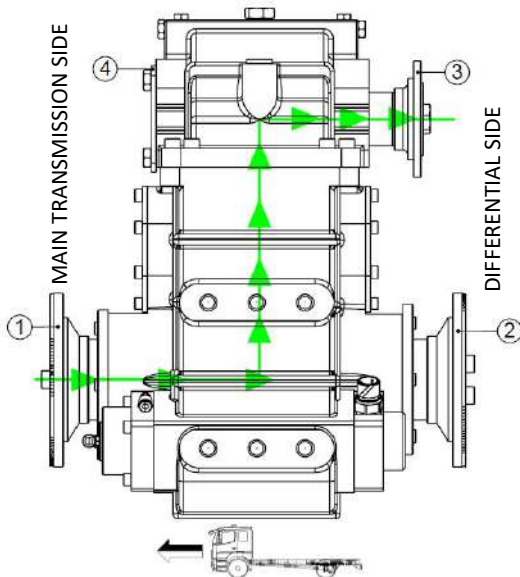


Figure 3

- 2) Engaging the equipment (Drawing 3); First, (D) inlet is activated (Main drive is deactivated). Then, (A) is activated. Air supply must continue throughout this operation (Air inlets are defined on Drawing 4).

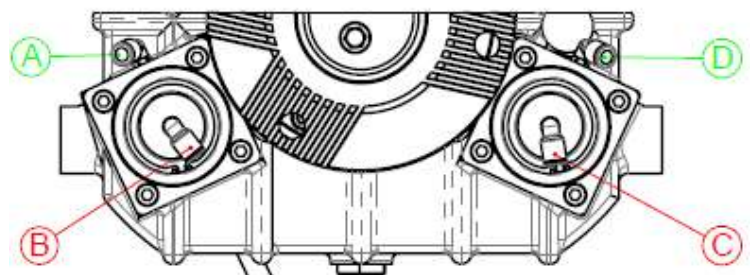


Figure 4

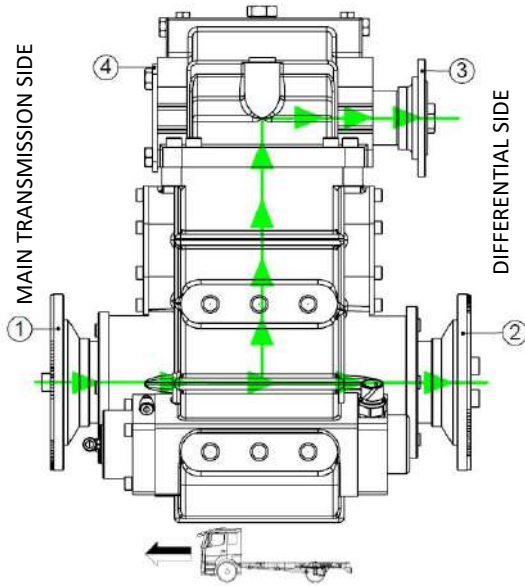


Figure 5

3) Running the equipment while driving (Drawing 5); First, (C) inlet is activated. Then, (A) is activated. Air supply must continue throughout this operation (Air inlets are defined on Drawing 6).

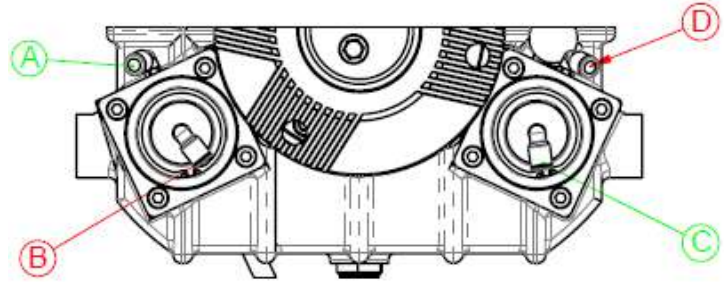


Figure 6



The above engage-disengage operations are effected once the main shaft is totally still. Do not attempt to engage or disengage while driving. Damage resulting from engagement or disengagement done during drive is not under warranty coverage.

Split Shaft Mounting

Oil must be added into the PTO before the mounting. After adjusting the position, the PTO must be fastened with suitable connection brackets and rubber pads on the connection holes. Make sure that the loadbearing direction of the pads are correctly aligned with this PTO (See Figure 1).

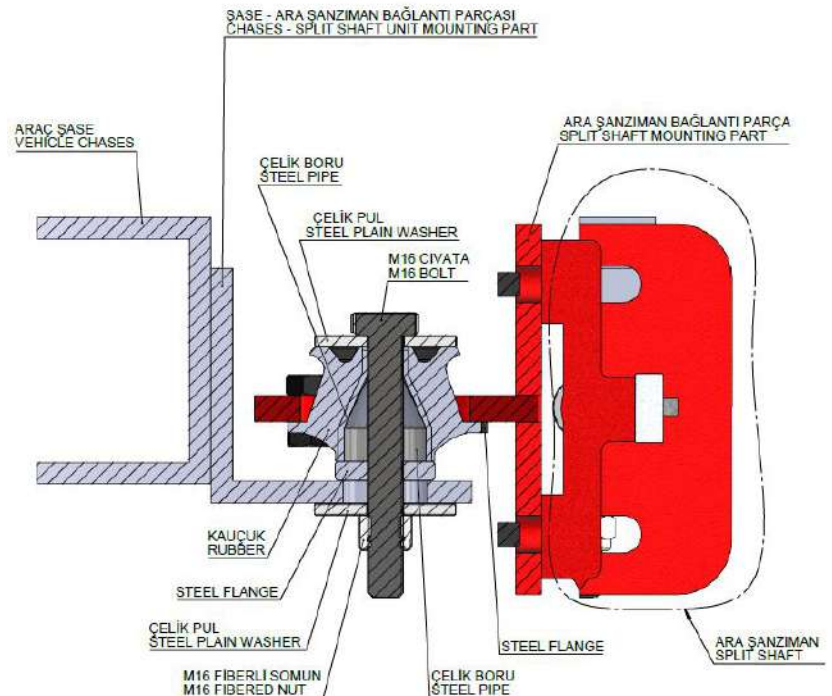


Figure 1



U-connection flanges and the centers indicated by arrows must be parallel to each other in planar sense. Such a position would prevent vibration and noise. The transmission shaft must be mounted accordingly. B1 and B2 angles must be identical. These angles vary depending on the chassis and operating rpm, however they must be between 3° and 7° (Ensure that the shaft manufacturers have provided shaft connections complying with operating rpm-connection angle values). It must be borne in mind that connections with bigger shaft angle would cause noise (See Figure 2)

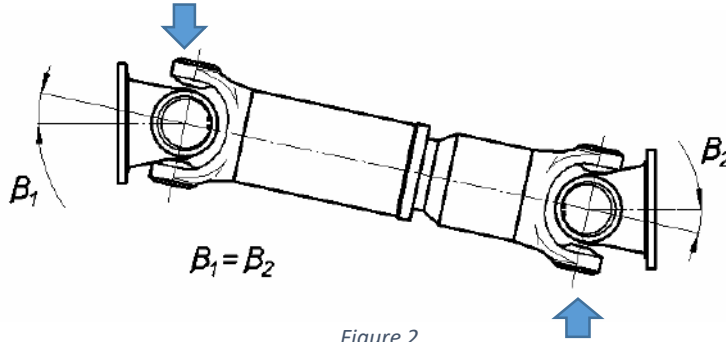


Figure 2

Servicing and Maintenance

Adding Oil

Split shat PTOs are shipped without oil inside. Oil must be added into them before commissioning through the oil filling mechanism. The task must be performed on a flat ground. Oil must be added by checking the oil level indicator provided on the equipment. The oil must be completely clean. You should only use the recommended oil types.

Recommended Oil Types

- 75W90 Gearbox Oil
- 80W90 Gearbox Oil




Oil capacity:

- 3.6 Liters



 **Oil use other than the recommended oil types would put the equipment out of warranty coverage.**

 **The oil adding operation should be done by referring to the oil level indicator on the split shaft PTO. If the equipment does not have such an indicator, then fill oil to the extend recommended by KOZMAKSAN.**

Oil Level Inspection



Oil level should be inspected referring to the oil level indicator on the split shaft PTO. The equipment periodic maintenance should be performed weekly, and maintenance works should also be done after long operation hours. The maintenance must be performed on ground level and when the engine is off. Add oil if the oil levels are below the required limit.

Oil Change

Make sure to drain the used oil completely before changing oil. It can be drained by opening the drainage cap. It is recommended to remove the filling cap to accelerate the process. The drainage cap must be cleaned before fastening it back. Care must be taken to have a new oil from the types recommended. Mixing old and new oil would result in shortening gearbox oil life.

Oil Leakage Detection

Check for oil leakage periodically. Watch for oil leakage in vehicle operation site or surroundings. Upon detecting leakage, prevent it. After checking the available oil level, add oil into the equipment where necessary. Contact KOZANOĞLU KOZMAKSAN if the oil leakage persists in spite of the intervention.

  **Avoid contacting the hot oil during oil change for your occupational health. Remember to use your required personal protective equipment during split shaft PTO maintenance keeping in mind the occupational health safety requirements. Act in accordance with the applicable regulations considering environmental protection concerns while disposing the used oil.**



Maintenance Period	Actions
First 50 Hours or 1 Month	<ul style="list-style-type: none">✓ Regularly check the PTO for oil leakage.✓ After 50 hours or 1 Month (whichever lapses first), change the oil.
First 50 to 300 Hours or 1 to 6 Months	<ul style="list-style-type: none">✓ Regularly check the PTO for oil leakage.✓ After 300 hours or 6 Months (whichever lapses first), change the oil.
After First 300 Hours or 6 Months	<ul style="list-style-type: none">✓ Regularly check the PTO for oil leakage.✓ After 300 hours or every year (whichever lapses first), change the oil.✓ After every 1200 hours or 2 years (whichever lapses first), change the sealing components (O-ring, seal etc.).✓ After every 2400 hours or 4 years (whichever lapses first), change all ballbearings.

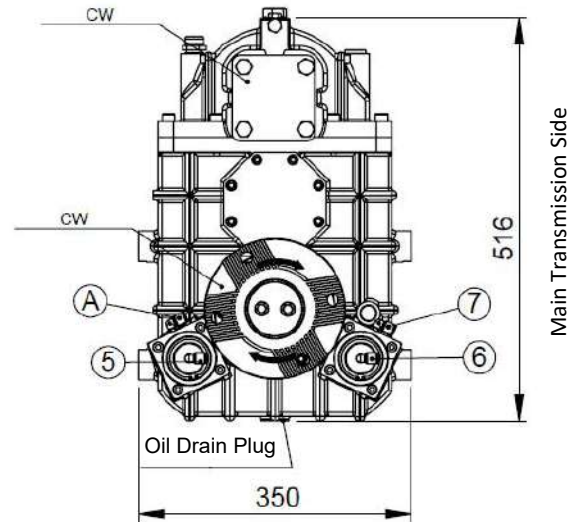
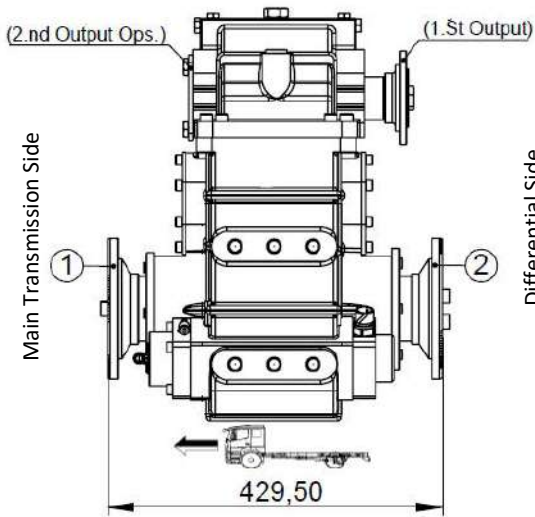
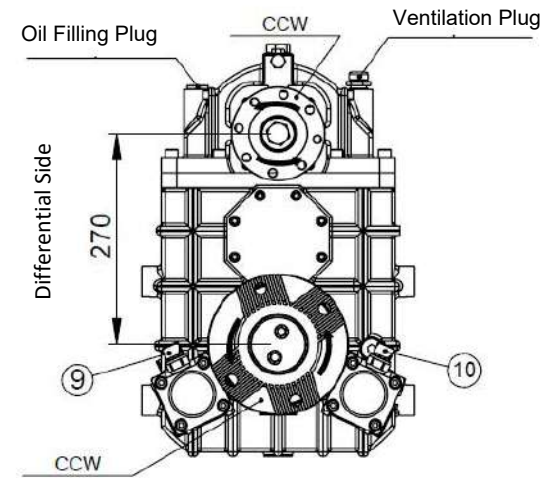
⚠ Do not forget that this is a technical product, and change the replacement parts on time for its maintenance. Check the components periodically. Inspect mounting components, transmission elements, drive and pump connection drive and pump connection shafts. If required, tighten them again.



Precautions for Emergency

If you wish to disengage the split shaft PTO in case of emergency, use the emergency stop mechanism provided by the manufacturer of the vehicle superstructure. This has to be done only by pressing the vehicle clutch pedal.

Technical Drawings





Warranty Terms

1. Warranty period is two (2) years from the delivery of the product.

2. In the event that the product fails during the warranty period, the following apply:

—Failure repair time is 1 to 8 working days depending on its nature,

—Where the repair time lasts more than 7 working days (except transportation time), a new limited product shall be supplied to the customer till the failure has been repaired.

3. Where a failure occurs within the warranty period due to the defects possibly arising from the manufacturing stages, the product shall be repaired free of charge in terms of servicing and replaced part price.

4. Warranty certificate has to be presented when asking for services for the products under warranty. Where the certificate is lost or not resented, then sales invoice (invoice with waybill) has to be presented.

Situations Which Terminate Warranty Obligations

The warranty obligations shall become null and void in following situation:

1. Using the product for a purpose other than the intended use,
2. Changes to the product that are not approved by us,
3. Digression from defined specifications and reference limits,
4. Selling to third parties one or more products not bearing our approval seal
5. Failing to perform indicated product maintenance,
6. Having a service provider, other than the manufacturer or trader, repair, carry out maintenance works or replace parts of the product within the warranty period,
7. Using the product against the usage terms set forth in the usage instructions,
8. Where the product is damaged due to the mounting.