# BARE-CO PTO SHAFT SPECIFICATIONS

Dynamic Capacity Minimum Life.

**Standard Shaft** At 5 Degrees 1000HRS. At 10 Degrees 100 HRS.

**Wide Angle Shaft** At 10 Degrees 1000HRS. At 18 Degrees 100 HRS.

| SHAFT SERIES | NOMINAL POWER @540RPM | NOMINAL POWER @1000RPM | NOMINAL TORQUE | MAXIMUM SPEED |
|---|---|---|---|---|
| 22mm / 54mm = 1 SERIES / 62mm approx. | 12KW 16HP | 19KW 26HP | 210NM | 1100 RPM |
| 23.8mm / 61mm = 2 SERIES / 68mm approx. | 16KW 21HP | 26KW 35HP | 270NM | 1100 RPM |
| 27mm / 74.6mm = 4 SERIES / 83mm approx. | 26KW 35HP | 42KW 56HP | 460NM | 1100 RPM |
| 30.22mm / 92mm = 6 SERIES / 101mm approx. | 48KW 64HP | 77KW 102HP | 830NM | 1100 RPM |
| 35mm / 106.5mm = 8 SERIES / 125mm approx. | 79KW 106HP | 126KW 170HP | 1390NM | 1100 RPM |
| 36mm / 89mm = W2500 SERIES / 100mm approx. | 79KW 106HP | 126KW 170HP | 1390NM | 1100 RPM |
| 42mm / 104mm = W2600 SERIES / 115mm approx. | 90KW 120HP | 144KW 192HP | 1400NM | 1100 RPM |

# TRIMMING IMPLEMENT PTO SHAFT TO SUIT YOUR TRACTOR

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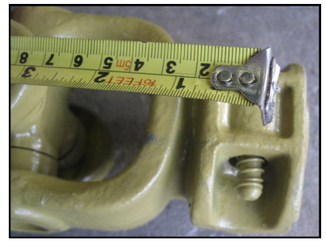
***NOTE:*** *End thrust from over length shafts (or seized telescopic tubes) can destroy your tractors internal PTO drive or implement clutch and gearbox, voiding your machine warranty.*

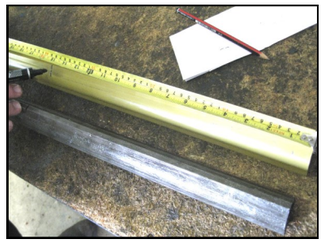
1) Measure groove to groove distance from implement shaft to tractor shaft with implement in shortest position.

***NOTE:*** *Length will vary as implement is raised or lowered*

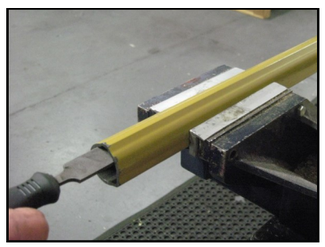
2) Remove safety guard from new shaft and measure length between shaft lock buttons or clamp bolts with shaft in closed position.



3) Required length of shaft is groove to groove length (step 1) **less a minimum of 76mm (3”)** to allow for disconnection from tractor and prevent end thrust damage. If shaft is shorter than this, ensure that 50% of telescopic tubes overlap.



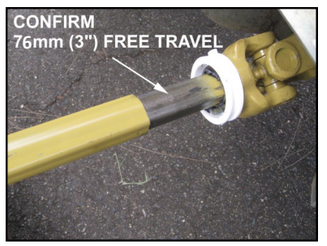
**4) Amount to cut off shaft;**
Length of new shaft (step 2)
Less groove to groove measurement (step 1)
plus 76mm (3”).
Cut this amount off both inner and outer drive tubes. Remove burrs and grease tubes.



| | |
|---|---|
| E.g. New shaft | 1194mm (47”) |
| Less grove to groove requirement | - 890mm (35”) |
| plus clearance 76mm | + 76mm (3”) |
| **Amount to cut off** | **380mm (15”)** |

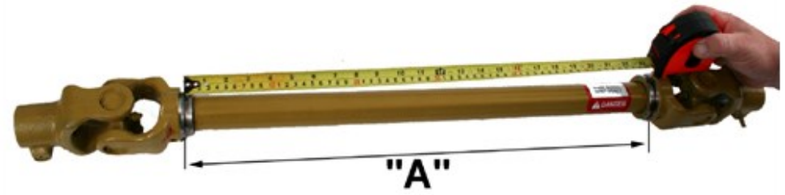
**This is example only**

***Insert your own measurements.***



# CUTTING SAFETY GUARD TO REQUIRED LENGTH

1




2


3

4

"B" = "A" – 76mm (3")
("B" is 76mm (3") less than "A")

5


6

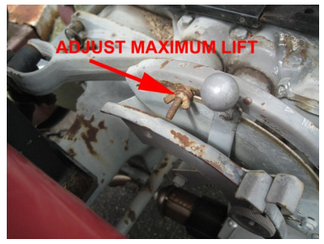
# FAILURE PREVENTION

## Shaft Operating Angle

Adjust tractor hydraulic control to minimise lift height. High lift and large shaft angle will destroy universal joint.

**All Bare-Co PTO shafts (single universal joint)**
Short time running: Maximum angle 25 degrees
Continuous operation: Maximum angle 17 degrees

**All Bare-Co Wide Angle PTO shafts (double universal joint)**
Short time running (or stationary): Maximum angle 80 degrees
Continuous operation: Maximum angle 25 degrees




## LUBRICATION

### Sliding Members

Use high temperature grease similar to HP multi-purpose chassis grease.
Grease sliding members prior to assembly and after every 20 hours of use. For applications with high telescoping movement grease every 8 hours.
Bare-Co shafts from 8 series upwards are equipped with a grease nipple which can be accessed by releasing the patent guard to align access hole.

### Universal Joints

Grease standard joints every 20 hours or 8 hours for severe conditions. Wide angle joints every 8 hours under wide angle conditions. Operating standard shafts at greater than 10 degrees angle or wide angle shafts at greater than 18 degrees angle dramatically reduces cross bearing life and requires more frequent lubrication.

**IMPORTANT:** Grease follows the easiest path through internal ports to the four cross bearings.
Over heating and poor quality grease baked in one port will prevent grease reaching that bearing, resulting in failure of individual cross bearings.

Typical cross failure due to blocked internal grease port

## MOST IMPORTANT!

Fully open guard covers to ensure grease flows to all cross bearings
Greasing through small guard access holes is not good enough!

## How to prevent wide angle shaft failures:

1) If 80 degree wide angle shafts are angled at greater than 80 degrees (Jack knifing implement with shaft stationary or rotating), the centre support ball and socket will break (not covered by warranty). To avoid over angling , fit turn limiters to your implement draw bar. Correctly fitted turn limiters will contact tractor tyre prior to over angling.
2) The very large centre disc lubrication cavity must be completely full before any grease transfers from the cavity to the centre support ball and socket. More than half a cartridge of grease is required to fill this cavity on initial shaft installation.
3) Wide angle covers should be completely removed to ensure grease flows to the centre support ball and all eight cross bearings