



# Pequea Turbo Tedder

## Model HT46X

### Operator's Manual



**THIS MANUAL MUST BE READ AND UNDERSTOOD BEFORE ANYONE OPERATES THIS MACHINE!**

*Manual# 705072  
Revised 03/14/2018*

# YOU MUST FILL OUT YOUR WARRANTY REGISTRATION TO ACTIVATE YOUR WARRANTY AND TO QUALIFY FOR PARTS AND SERVICE!!

To the Owner;

Thank-You for choosing a quality product from Pequea Machine, Inc. We strive to give you the best equipment and the best level of service of any company. With a little care and maintenance this machine will do your work for you for many years. In this manual, we make an effort to get you better acquainted with the machine so you can achieve maximum performance. We design and build all of our equipment with the end user in mind so we welcome any suggestions or ideas for improvement. Please note that it is within our rights to make changes or improvements to our equipment without updating the equipment that was manufactured before the change took place.

Please take a few minutes to fill out the area below. This information will be valuable to you when ordering parts or requesting service from your dealer.

Dealer Name: \_\_\_\_\_

Dealer Phone Number: \_\_\_\_\_

Service Manager/Technician: \_\_\_\_\_

Model# and Description: \_\_\_\_\_

Serial Number: \_\_\_\_\_

Date of Purchase: \_\_\_\_\_

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# INTRODUCTION

## Intended Use

Pequea Tedders are designed for evenly distributing hay and forage crops only. Pequea will not cover under warranty a tedder that has been used outside of these crops.

## Serial Number

The tedder's serial number can be found on the side of the tedder tongue. Please use this number when requesting service, seeking information, or ordering parts. For the operator's convenience, space to record the serial number, model number, purchase date, and dealer has been provided inside the front cover of this manual.

## Specifications

| Specifications        | TT4100                     |
|-----------------------|----------------------------|
| Working Width         | 17'                        |
| Transport Width       | 10' 6"                     |
| Gearboxes             | Grease/Oil Bath            |
| Rotors                | 4                          |
| Arms Per Rotor        | 6                          |
| Arm Construction      | Flat Bar                   |
| PTO/HP Recommended    | 35+                        |
| Weight                | 1250                       |
| Spindle Size          | 1-3/8"                     |
| Hub                   | 4-Bolt w/ Tapered Bearings |
| Wheels                | 4-Bolt Heavy Duty, Painted |
| Tires                 | 18.5 x 8                   |
| Hydraulic Requirement | 2350PSI                    |

## SAFETY

-  ***This symbol precedes specific safety instructions throughout this manual. When reading the manual, pay close attention to the information that follows this symbol.***
-  FAILURE TO FOLLOW INSTRUCTIONS IN THIS MANUAL COULD RESULT IN PERSONAL INJURY OR DEATH. READ ENTIRE MANUAL BEFORE OPERATING THE TEDDER.
-  Keep hands, feet and clothing away from the machine's power take-off (PTO) shaft and any other moving parts until the machine has been shut down and the power source has been locked out.
-  Do not adjust, unclog, lubricate, or service the tedder until it has been shut down.
-  Support the tedder securely while working under it.
-  Be certain all bystanders and animals are a safe distance away before raising or lowering the rotors.
-  Never allow anyone to ride on the tractor or the tedder.
-  When transporting, never exceed a speed of 20 MPH and avoid sudden turns.
-  Be constantly aware of the ends of the machine to avoid collision with other objects.
-  When transporting the machine on public roads use the proper reflectors, lights, and slow moving vehicle signs required by local government agencies. Pequea will not be liable for any traffic violations.
-  Be sure to check all fasteners before and after every use, this is especially important when the tedder is new but is a good practice on any machinery with high vibration levels.
-  Be careful around hydraulic hoses and fittings. Never go near hydraulic leaks. High pressure leaks can puncture skin and cause serious injury or death!

# SAFETY

## Safety Decals and Reflectors

*Safety decals and reflectors are for the safety of yourself and others, and must be heeded at all times. If any decals are missing, faded, or damaged in any way, please contact your dealer for replacements immediately. Shown below are some of the decals used on your tedder.*

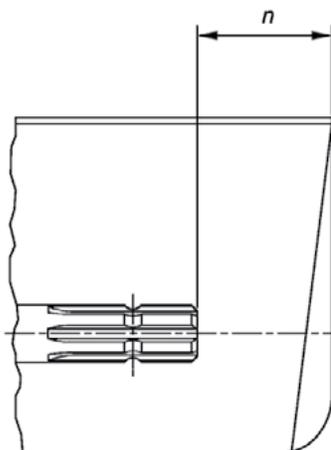


## SAFETY

### Stay Clear of Rotating Drivelines



TS1644-UN-22AUG95



H96219-UN-29APR10

Entanglement in rotating driveline can cause serious injury or death.

Keep tractor master shield and driveline shields in place at all times. Make sure rotating shields turn freely.

Wear close fitting clothing. Stop the engine and be sure that PTO driveline is stopped before making adjustments, connections, or cleaning out PTO driven equipment.

Do not install any adapter device between the tractor and the primary implement PTO drive shaft that will allow a 1000 rpm tractor shaft to power a 540 rpm implement at speeds higher than 540 rpm.

Do not install any adapter device that results in a portion of the rotating implement shaft, tractor shaft, or the adapter to be unguarded. The tractor master shield shall overlap the end of the splined shaft and the added adaptor device as outlined in the table.

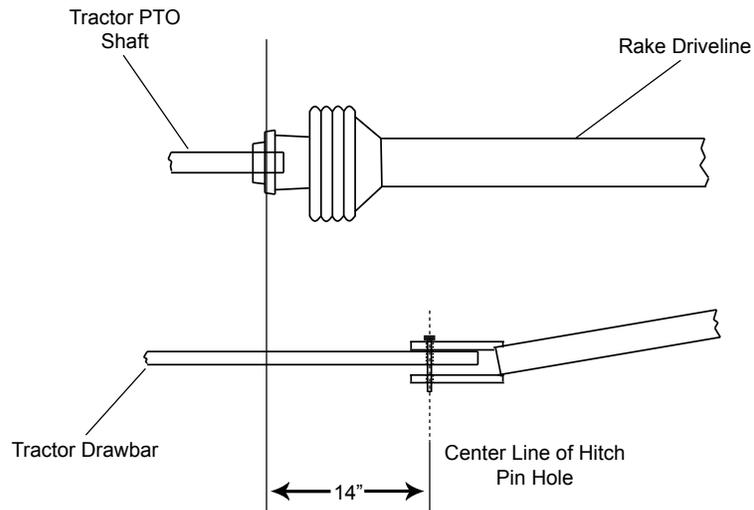
| PTO Type | Diameter          | Splines | $n \pm 5 \text{ mm (0.20 in.)}$ |
|----------|-------------------|---------|---------------------------------|
| 1        | 35 mm (1.378 in.) | 6       | 85 mm (3.35 in.)                |
| 2        | 35 mm (1.378 in.) | 21      | 85 mm (3.35 in.)                |
| 3        | 45 mm (1.772 in.) | 20      | 100 mm (4.00 in.)               |

# HITCHING

## Tractor Requirements

The Pequea Tedder is designed to be used with a tractor having a 540 RPM PTO. The hitch pin hole on the tractor should be 14" (35cm) from the groove in the PTO output shaft. (See illustration below)

NOTE: If the hitch pin hole is located well behind the tractor tires there is the potential of making a sharp enough turn to damage the PTO shaft.



## Hitching

Align the hole in the tractor draw bar with the hole in the rake tongue and insert an approved hitch pin. Lock hitch pin with a safety clip to insure that it cannot work its way out.



Figure 1

## HITCHING

With PTO shaft connected to the tedder, slide shaft safety collar back and slide the tractor side of the PTO shaft onto the tractor drive shaft. Release the shaft safety collar. Insure that the PTO shaft is securely locked onto the tractor drive shaft. Fold the PTO stand down onto the frame to avoid damaging the PTO shaft shielding. (Figure 2)

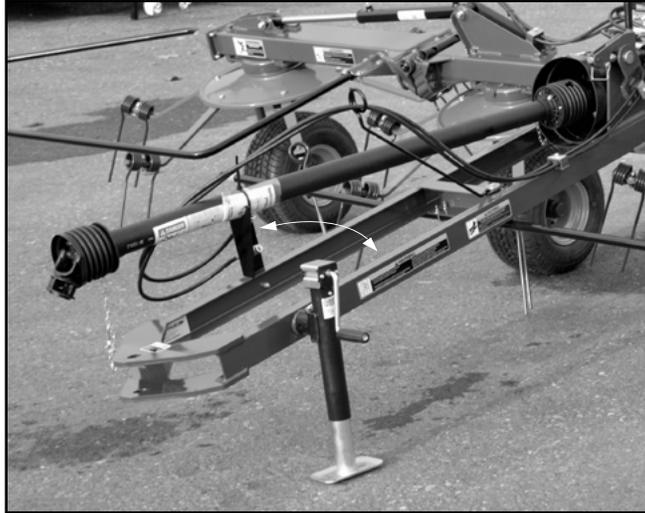


Figure 2

Connect the tedder hydraulic lines to the tractor implement hydraulic output.

Plug the electrical harness into the tractor to operate the lights (If applicable).

Crank the jack up until the foot is off the ground and remove the locking pin. Pull the jack off of the mount, place in storage position on the main frame, and reinsert locking pin. Figure 3 shows the jack in the storage position.



Figure 3

## TRANSPORTING

### Field Transport

Always transport the tedder with the wings raised in the transport position to reduce the overall width.

Never allow any riders on the tractor or the tedder.

Avoid tight turns to reduce the possibility of loss of control or PTO shaft damage.

Remain fully aware of the width of the tedder in relation to objects you are passing, either stationary or moving.

Never travel at speeds over 10 MPH (16km/hr.) in the field.

### Road Transport

Adhere to all suggestions for transport in the field listed above.

Follow all local regulations for moving agricultural equipment on public roads, especially those related to reflectors, SMV (slow moving vehicle) symbols and safety markers.

Never travel at speeds over 20 MPH (32km/hr.) on the road.

Never travel on the road at night unless your tedder is equipped with lights.

## SET-UP

### Tine Height Adjustments



Never attempt to make any adjustments unless the tedder and tractor have been shut off and have come to a complete stop.

Correct tine clearance cannot be stressed enough as it is essential to minimize crop loss, prevent premature wear of tines, and decrease crop contamination which can result in premature wear of your processing equipment. Turn the tilt cylinder pitch adjustment handle (Figure 4) clockwise to raise the tine height or turn the handle counter clockwise to lower the tine height. Flip the wire lock over the handle to keep the handle from turning during operation. Generally, the tines should be around 1-2 inches from the ground for most crops. However, each situation is different and factors like field conditions, stubble length, and crop moisture can change where the optimum setting should be.



Figure 5

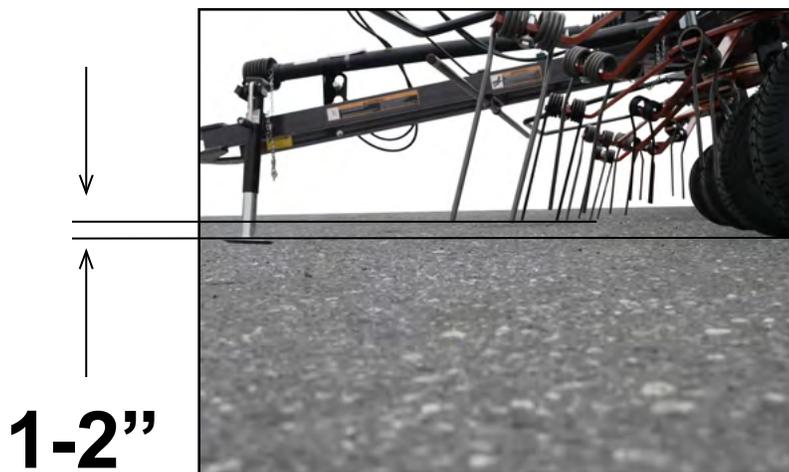


Figure 6

## OPERATION

Having made adjustments (where necessary) described in the previous sections, drive the tractor to where you will begin tedding. With the tractor standing still, lower the tedder to its operating position. Engage the tractor's PTO at a low RPM, (this is especially important on a tractor with an electric clutch) and without getting off the tractor seat, visually determine that the tedder is properly adjusted. If further adjustments are required, disengage the PTO and stop the tractor's engine and adjust where needed.

When ready, increase PTO speed to the desired RPM and engage the tractor's forward gear. The correct ground speed/PTO speed ratio, along with the proper adjustment for height and level, will ultimately determine the quality of the tedding job. 6 MPH (9.6 km/hr.) ground speed and 500 PTO RPMs is a good starting point. However, you may need to change setting and/or speeds for different crop conditions. Adhere to all safety requirements as listed previously for field operation.

Always operate the tedder at the lowest RPM possible while still picking up all the material. Higher speeds result in more leaf loss and lower quality hay, especially if you are tedding alfalfa hay. Higher speeds will also cause more wear on the tedder and will also promote wrapping of hay around any rotating parts.

While operating the tedder you must constantly be aware of all your surroundings. The guards are designed for human safety and will not withstand a collision with a stationary object such as a fence post or an electric pole. If such a collision does occur and you cannot stop before the tine arms hit the obstacle, the radial pin clutch on the gearbox input shaft will engage and should protect the gearbox from any serious damage. The slip clutch will not engage fast enough to protect the tine arms.

This tedder has been designed to tolerate a fair amount of abuse due to rough field conditions, However, this is no excuse for careless operation and it is the operator's sole responsibility to avoid conditions such as washouts, ditches, animal dens, and sink holes. These hazards can cause severe damage to the tedder. Damages incurred due to carelessness by the operator will not be covered under warranty by the manufacturer.

## LUBRICATION & MAINTENANCE

It is extremely important to keep your tedder properly lubricated at all times. Failure to do so will greatly decrease the performance and the life of the machine.

Never lubricate or perform any maintenance, adjustments or repairs with the machine running. The PTO must be disengaged and the tractor's engine must be shut off.

Do not over grease the sealed bearings. Over greasing could rupture the seals exposing the bearing to a lot of dust particles. Roller bearings are sealed and are generally maintenance free. The friction bearing points cannot be over greased.

### General Maintenance

Check the tire pressure. Tires should be inflated to 20psi.

Periodically check for loose fasteners. Fasteners are all torqued at the factory but vibrations from normal operation may cause some of the fasteners to loosen, especially when the machine is relatively new.

The wheel hubs should be checked to make sure the bearings are snug and do not allow the wheel to wobble during operation.

Check the guards before each use to make sure they are not bent, damaged or missing. Do not operate the tedder without proper safety guarding.

Check the tines before each use to make sure none are broken, loose or missing. Missing tines will affect the performance of the tedder and will also throw the rotor off balance causing undue stress and vibration.

Check all hydraulic lines for leaks or other damage. Do not use the tedder if any of the lines are damaged.

Make sure all the safety decals are legible.

## LUBRICATION & MAINTENANCE

### Gearbox Lubrication

The oil in the center gearbox (Figure 11) should be drained and replaced before each season. Drain all the old oil and replace with 64 oz of new SAE 80W90 gear oil.

The rotor gearboxes (Figure 12) have been packed with grease at the factory and should not need to be maintained. However, they should be checked before each season to make sure the gears are still coated with a film of grease. If additional grease is needed, use 2-4 ounces of NLGI #2 gear grease.

Be sure to properly dispose of any used oil or grease! Do not pour directly onto the ground!

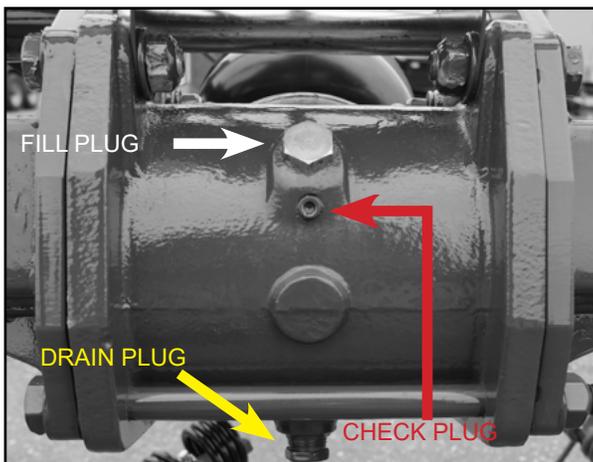


Figure 12



Figure 13

### Wheel Bearings

Check wheel bearings for proper lubrication before each season. If the bearing grease is becoming dry or caked the bearings should be cleaned and re-packed with new multi purpose grease.

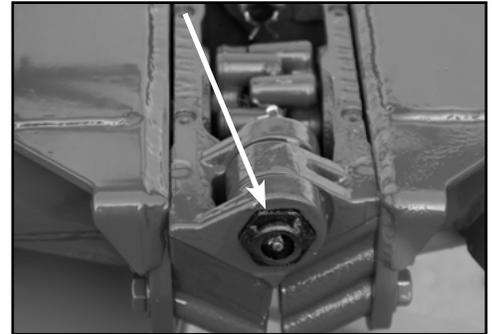
### General Lubrication

All other grease fittings should be lubricated after every 50 hours of operation. Use a quality multi purpose grease for all bearings, joints, and pivot points. In dry, dusty conditions it may be necessary to grease more than every 50 hours. In the following pages we show the location of the grease fittings. Before greasing, use a clean cloth and wipe off both the grease fitting and the tip of the grease gun. This will eliminate any chance of dirt or dust particles getting inside and damaging the bearings or friction surfaces.

## LUBRICATION & MAINTENANCE

### General Lubrication

The wing pivots are greasable through a fitting on the end of each pivot pin. These are friction pivot points and should always be kept wet with grease.

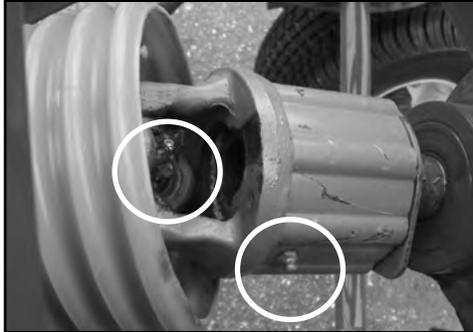


The tilt cylinder adjustment threads must be kept well greased to allow for easy adjustment for tine height.



## LUBRICATION & MAINTENANCE

### PTO Shaft Lubrication



The radial pin clutch and the center cross in the pto yoke should be greased every 8 hours.



The front center cross should also be greased every 8 hours.



The pto guarding should be lubricated at all times. If the shield feels tight when it is extended and retracted then lubricate as necessary.

## Rotor Arm Timing

The timing of the tine arms on the tedders is very important for the tedder. The tines need to be equally spaced to avoid any interference between the tines when they are rotating. See the figures ( ) of the tine arms The figures below show correctly timed rotors and incorrectly timed rotors.

The timing needs to be kept in mind when doing any type of repair or maintenance on the tedder. Keeping the correct timing is easily achieved with knowledge of the timing marks on the gears and finger coupling drives. Please follow the instructions for timing carefully and step by step to ensure that the tedder will be put together correctly. If the tedder is assembled incorrectly, the only way to correct the timing is to tear it apart again and start over. Following the procedure in the correct order will ensure that the timing is accurate.

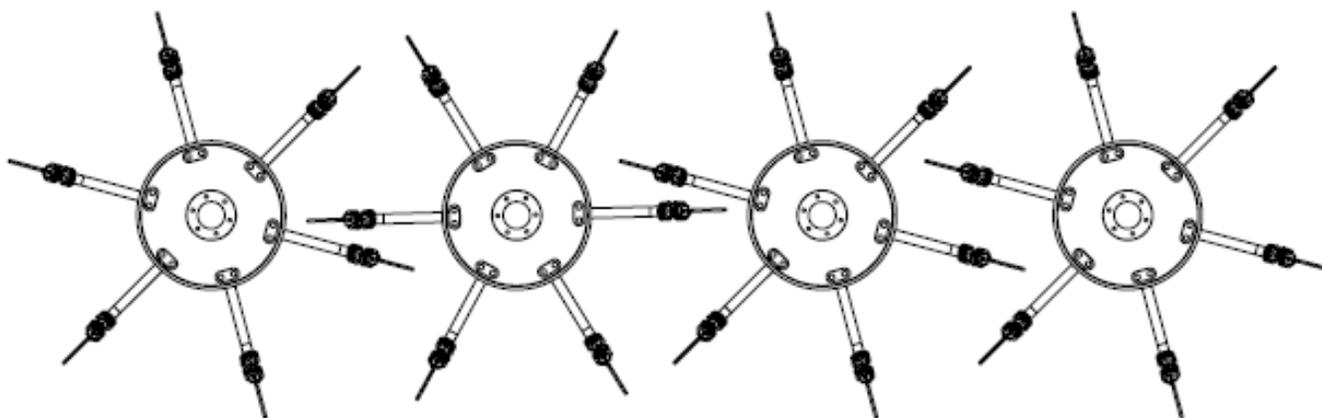


Figure 1: Tedder Timing Bad

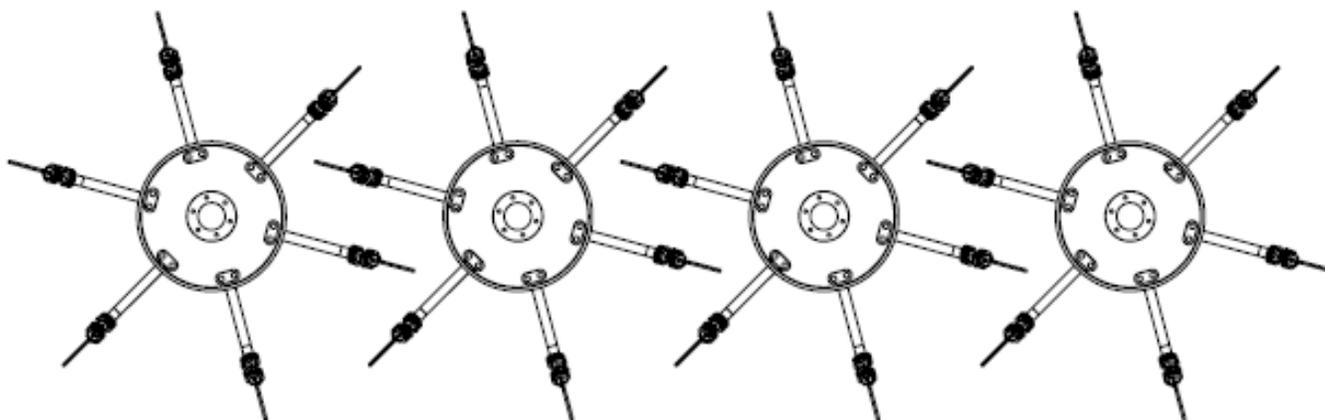


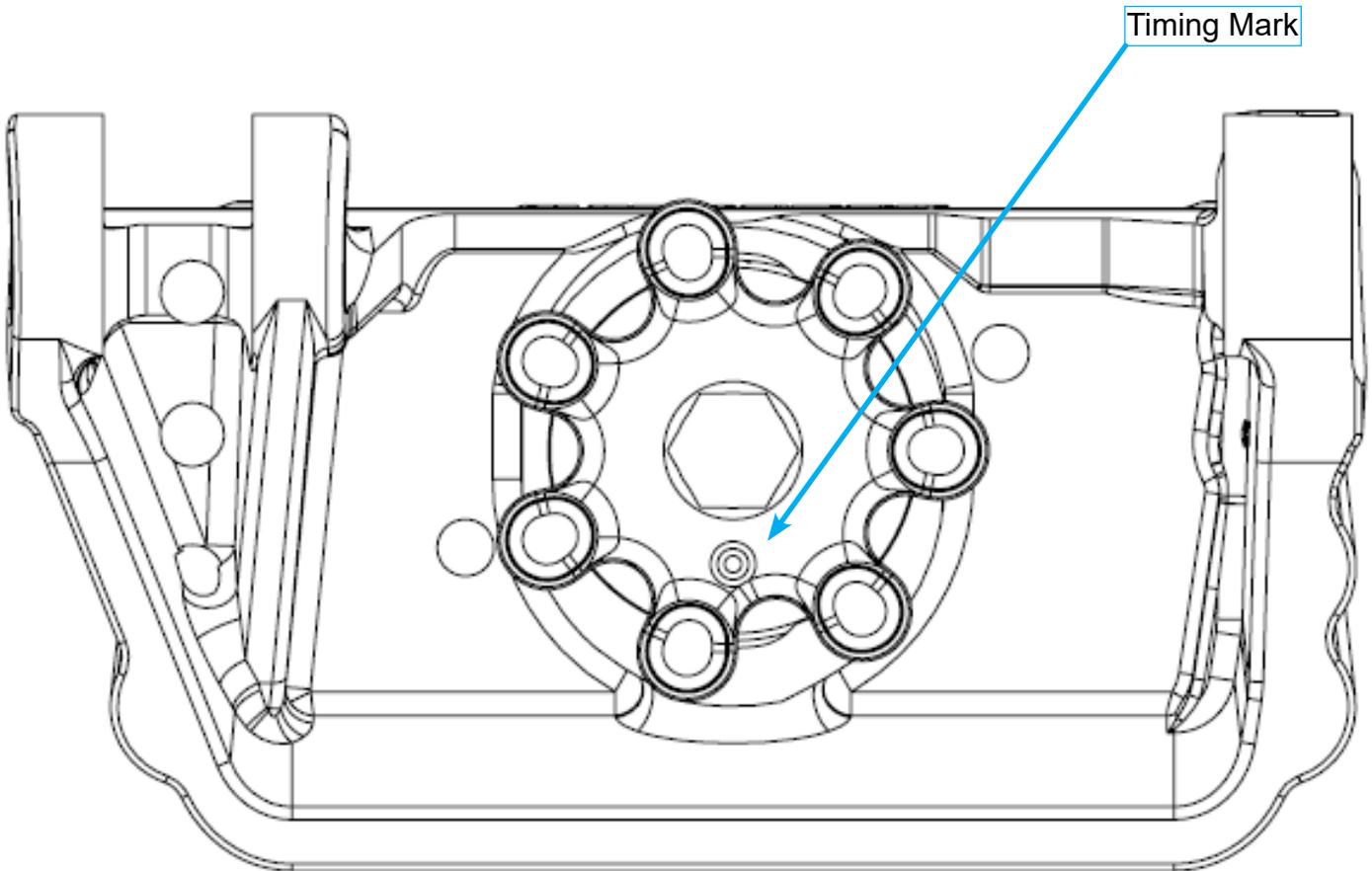
Figure 2: Timing is correct

## Timing marks

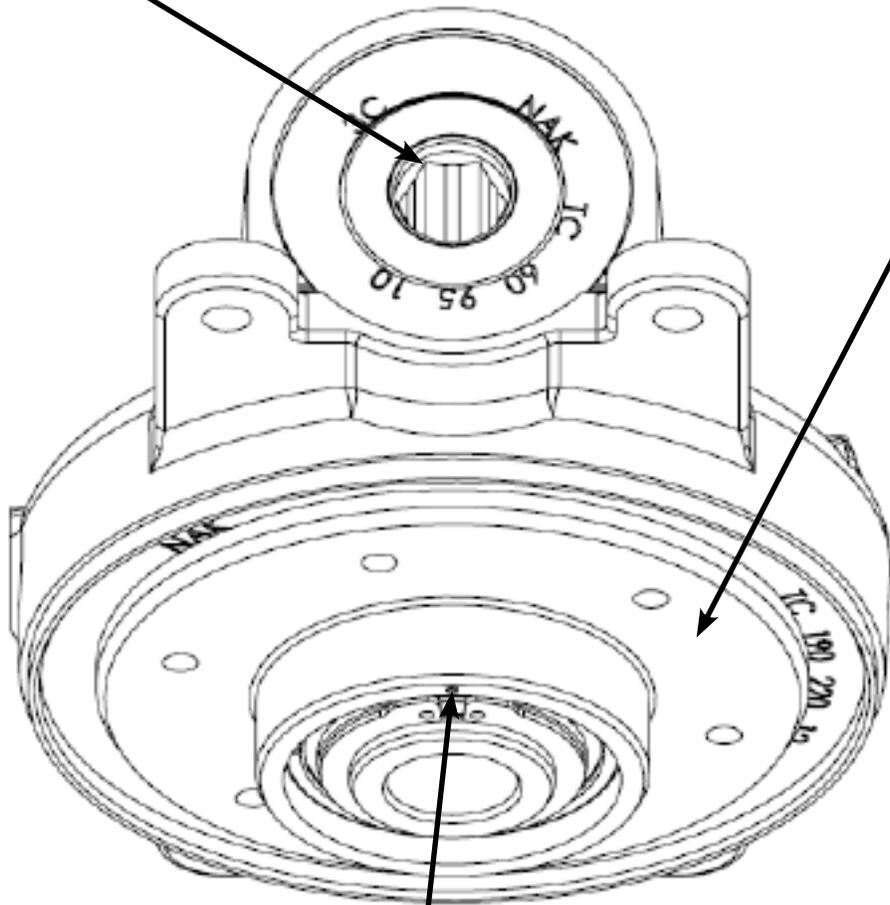
Timing marks and locations are on each of the 4 rotor gearboxes and the finger drives. The figures below show how the finger drives and the gearboxes need to be timed when assembling.

The finger drive is contained by a spherical bearing centered inside a bolted-on casting. The hex drive shaft goes through the finger drive before bolting and needs to be oriented as shown with the timing mark on the down side of the shaft.

The rotor gearboxes have a timing mark on the larger gear. To set the timing on the rotors, the gearbox will need to be rotated to the position shown in the figure below with the timing mark beneath the pinion (small gear) and in line with the hex shaft.



Orientation of Hex is critical, any flat of Hex needs to be lined up parallel to the face of the gear.



Face of the gear.

Timing mark on gear. Line this mark up on side of pinion (small gear). The mark is smaller and difficult to see. it is located on the lip of the gear.







## **Pequea Machine's Limited Warranty**

Pequea Machine Company warrants to the original Purchaser all Machinery, Equipment, or Trailers manufactured by it, to be free from defects in material and workmanship under normal use and service. Its obligation under this Warranty shall be limited to replacement or repair of any parts thereof, free of charge to the original Purchaser, at its place of business, provided, however, that the part(s) to be replaced or repaired, shall within one (1) year after delivery to the original Purchaser, be demonstrated to be defective; which determination shall be made by the Company. The said components or parts must be returned through the Selling dealer or distributor directly to the Company with all transportation charges prepaid. Notice of defect shall be furnished in writing to the Seller and to the agent through whom the machinery was received, disclosing in full all known defects and failure in operation and use, and reasonable time shall be given to the Seller to remedy any such defects and failures. Failure to make such trial or give such notice shall be deemed an absolute acceptance by the Buyer and satisfaction in full of this Limited Warranty.

This Warranty does not cover, under any circumstances, any parts, components, or materials which, in the opinion of the Seller and Company, have been subjected to neglect, misuse, alteration, accident, or if repaired, with parts other than those manufactured by and obtained from Pequea Machine Company. This Warranty does not cover components which are already covered by a separate Warranty provided by the supplier of said parts or components. The Company's obligation under this Warranty is limited to repair or replacement, free of charge to the original Purchaser, of any part which in judgment of the Company is defective. This Warranty does not cover normal wear and tear.

THIS WARRANTY IS MADE EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING ANY WARRANTY OF MERCHANTABILITY AND FITNESS FOR USE AND PURPOSE AND OF ALL OTHER OBLIGATIONS OR LIABILITIES ON ITS PART AND ANY IMPLIED WARRANTY, AND IT NEITHER ASSUMES NOR AUTHORIZES ANY OTHER LIABILITY IN CONNECTION WITH A SALE OF THIS MACHINE. THIS WARRANTY SHALL NOT APPLY TO THIS MACHINE OR TO ANY PART THEREOF WHICH HAS BEEN SUBJECT TO ACCIDENT, NEGLIGENCE, ALTERATION, ABUSE, OR MISUSE.

The Company makes no Warranty whatsoever in respect to accessories or parts not supplied by the Company. The term "original Purchaser" as used in this warranty, shall be deemed that person for whom the Machine, Equipment, or Trailer is originally supplied. This Warranty shall apply only within the boundaries of the continental United States.

Under this Warranty, the Company cannot guarantee that existing conditions beyond its control will not affect its ability to obtain materials or manufacture necessary replacement parts.

No one is authorized to alter, modify, or change the terms of this Warranty in any manner.

The Company warrants the Construction of the equipment sold herein and will replace at its expense for a period of (1) year from the date hereof, any parts which prove defective as determined under the terms of this Limited Warranty.



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