



**OPERATOR'S MANUAL
AND PARTS LIST**

**PROGRESSIVE TDR-22 TRI-DECK
ROLLER MOWER**

SERIAL NO: UP TO 1291175

22 FT. ROTARY FINISHING MOWER



**PROGRESSIVE TURF EQUIPMENT INC.
137 WEST WILLIAM STREET
SEAFORTH, ONTARIO
CANADA N0K 1W0**

PHONE: 519-527-1080
TOLL FREE: 800 668-8873
ISSUE DATE: JULY 2007

SERIAL # _____
WEB: www.progressiveturfequip.com

120517

DECLARATION OF CONFORMITY

According to Annex 11 A of the European Community Regulation for Machines

We, Progressive Turf Equipment Inc. 137 West William Street, Box 940, Seaforth Ontario, Canada declare under our sole responsibility that:

Progressive Rotary Finishing Mowers

<u>Models:</u>	<u>Part Number</u>	<u>Description</u>
TD65-2	526512C, 526512D	3.66m Tri-Deck Finishing Mower
TD65	526515C, 526515D	4.72m Tri-Deck Finishing Mower
TD92	529222C	6.70m Tri-Deck Finishing Mower
PF-120	601205C, 601205D	3.05m Pro-Flex Contour Mower
PM-36	529236C	10.97m Pro-Max 36 Mowing System
TDR-22	526924C	6.70m Tri-Deck Roller Mower
TDR-15	528750C, 528750D	4.72m Tri-Deck Roller Mower
TDR-12	528712D	3.65m Tri-Deck Roller Mower
SDR-65	524010C	165cm Three Point Hitch Roller Mower
SDR-90	526010C	228.6cm Three Point Hitch Roller Mower

are in conformity with Directive 98/37/EC of the European Parliament and of the Council of 22 June, 1998 on the approximation of the laws of the member states relating to Machinery.

The Technical Construction File is maintained at the corporate offices of Progressive Turf Equipment Inc. at the address listed above.

Dated at Seaforth, Ontario Canada the 25th day of January 2010.



Luke Janmaat
President
Progressive Turf Equipment Inc.

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TO THE OWNER:

Before you operate this mower, study this manual carefully. It has been prepared to help you do a better and safer job of maintaining your mower.

Use only genuine Progressive Turf Equipment Inc. replacement parts. Substitute parts will void the warranty and may not meet the standards required for safe and satisfactory operation of this equipment.

Blades are especially important. The manufacturing process is a very exacting one and only a handful of blade producers are capable of this process. Always insist on purchasing and using OEM blades for your own protection and that of your employees.



WHITE

ATTENTION - This safety symbol means your personal safety is involved. Be sure to observe and follow these instructions.



RED

DANGER - An extreme intrinsic hazard exists which would result in high probability of death or irreparable injury if proper precautions are not if proper precautions are not taken.



ORANGE

WARNING - A hazard exists which can result in injury or death if proper precautions are not taken.



YELLOW

CAUTION - A reminder about safety practices, or directs attention to unsafe practices, which could result in personal injury if proper precautions are not taken.

GENERAL INFORMATION:

The purpose of this manual is to assist the operator in maintaining and operating Progressive Turf Equipment mowers. Read it carefully. It furnishes information and instructions that will help you achieve years of dependable performance.

Some information may be general in nature due to unknown and varying conditions. However, through experience and these instructions you should be able to develop operating procedures suitable to your particular situation.

Throughout this manual, references are made to right and left directions. These are determined by standing at the rear of the equipment and facing the direction of forward travel. Blade rotation is counter-clockwise as viewed from the top of the mower.

For quick reference, record the following information.

MODEL: **TDR-22**

DATE PURCHASED: _____

SERIAL NUMBER: _____

For additional information, assistance during assembly, or operation of this mower contact Dealer machine was purchased from, or call Progressive Turf Equipment Inc.

PHONE: 519-527-1080 1-800-668-8873 FAX: 519-527-2275

WARRANTY POLICY

(To validate warranty, the Delivery and Warranty Registration form must be completely filled out & mailed to Progressive Turf Equipment Inc.)

Progressive Turf Equipment Inc. warrants each new product to be free of defects in material and workmanship to the original purchaser. Warranty will be applicable, from the original date of purchase.

**Pro-Flex 120, TD65-2, TD65, TD92, Pro-Max 36, TDR-22, TDR-15, TDR-12,
SDR-90, SDR-65.**

FOR ALL APPLICATIONS - 24 MONTHS

This warranty coverage supersedes all written warranties, effective June 2007.

This warranty will not cover any components which, in the opinion of the company, have been subjected to negligent use, alteration, and accident, or if parts supplied by others have been used in repairs of any product manufactured by Progressive Turf Equipment Inc.

Our obligation, in the event that any Progressive Turf Equipment Inc. product warranted, shall become defective or fail, will be limited to repairing or replacing free of charge, or provide labour and materials for the repair of, any defective part, subject to company approval. All defective parts must be retained for 60 days after applying for warranty. Any parts to be returned to Progressive Turf Equipment Inc. for inspection will be issued an RGA number and must be returned within 14 days, transportation charges prepaid. This warranty will not provide for service calls to customer location or for transportation of equipment to dealer location if such servicing is required.

The sole liability of Progressive Turf Equipment Inc. under this warranty or any implied warranty, shall be limited as set forth herein. The customer agrees that Progressive Turf shall not in any event be obligated to reimburse, or pay the customer for any expense, loss or any direct, incidental or consequential damages to any person or property for any reason or caused by reason of Progressive Turf Equipment Inc., negligence, or otherwise in connection with the sale, delivery, installation, training or use of the equipment. The customer shall indemnify and hold Progressive Turf Equipment Inc. harmless against all such liability.

This warranty is not subject to change or modification by anyone, including dealers, and no one is authorized to make any representation on behalf of Progressive Turf Equipment Inc.

TDR-22 MACHINE SPECIFICATIONS

Cutting Width	22 feet	Deck Flexibility	25" up, 15 degree down
Cutting Height	1/2" to 4"	360 Degree Turn	0" Uncut Circle
Recommended HP	65 Min – 75Max	Numbers of wheels	2 on main frame
Hydraulics	Requires 1 double acting outlet, all hoses supplied to tractor	Mowing Capacity	MPH 2 4 6 7.5 Acres per hour 5.4 10.7 16 20 Assumes no stops or overlap.
Transport Width	94"	Paint Finish	Electrostatically painted with oven baked finish.
Height	10' 2"	SMV Sign	Located at back of mower for safety
Length	17 ft.	Weight	Total 5820 lbs.
Ground Clearance	11" Cutting		

DECK		FRAME	
Drive	PTO shaft to right angle gear box driving (4) "B" section belts to 4 heavy-duty spindles.	"A" Frame	Hollow structural steel tubing with supports at high stress areas to achieve maximum strength.
Belt Adjustment	Easily made by loosening four bolts at gear box base and adjusting the slide plate forward or backward and retightening.	Axles	Rated at 6000 lbs. each with re-greasable hubs
Deck Construction	3/16" steel plate formed and welded with supporting members at high stress areas to achieve maximum strength. Deck is 7" deep.	Wheels	6 bolt, 5 1/2" bolt circle
Cutting Height	Easy and accessible screw mechanism. Infinite number of adjustments from 1/2" to 4"	Tires	2-LT305/70 R16
Spindles	12 spindles, (4) 35mm spindles per deck are each carried in 2 re-grease able ball bearings, which are housed, in a precision machined hub.	Hitch	4 positions, with height settings from 10-1/2" to 15". Safety chain with hook according to Dept. of Transport regulations.
Blade Support	3/4" x 2 1/2" x 11 1/2" long bar welded to spindle and machined. 1/2" bolts hold blade rigid to provide clean level cut.	Tongue Weight	Transport position – 1260 lbs. Mowing position – 560 lbs.
Blades	High lift, heat treated, alloy steel blades 5/16" x 2 1/2" x 24" (4) per deck.	Cylinders	Rear deck: (1) 3" x 12" double acting Wing deck: (2) 3" x 16" double acting
Speeds	Tractor PTO – 540 RPM Blades – 2890 RPM Blade Tip Speed 18,300 FPM	Screw Jack	6000 lbs. side wind jack for easy hookup.
Rollers	6" diameter with 1.88 wall thickness. Supported by (2) 1.25" two bolt ductile bearings	Main Gear Box	4 shaft gear box with (1) 3/8-6 spline shafts, delivering power to decks.
		PTO Shafts	Deck Drive telescoping agricultural PTO Drive shafts, with proper safety shields. (1) 3/8-6 spline quick-disconnect yokes on both ends.
			Input PTO...rated at 85 HP at 540 RPM Deck PTO...rated at 38 HP at 540 RPM

SAFETY

WORK SAFELY ---- FOLLOW THESE RULES



Instructions given with this symbol are for personal safety. Be sure you and your workers follow them.

A CAREFUL OPERATOR IS THE BEST INSURANCE AGAINST AN ACCIDENT BEFORE HANDLING ANY EQUIPMENT READ THE OPERATOR'S MANUAL.

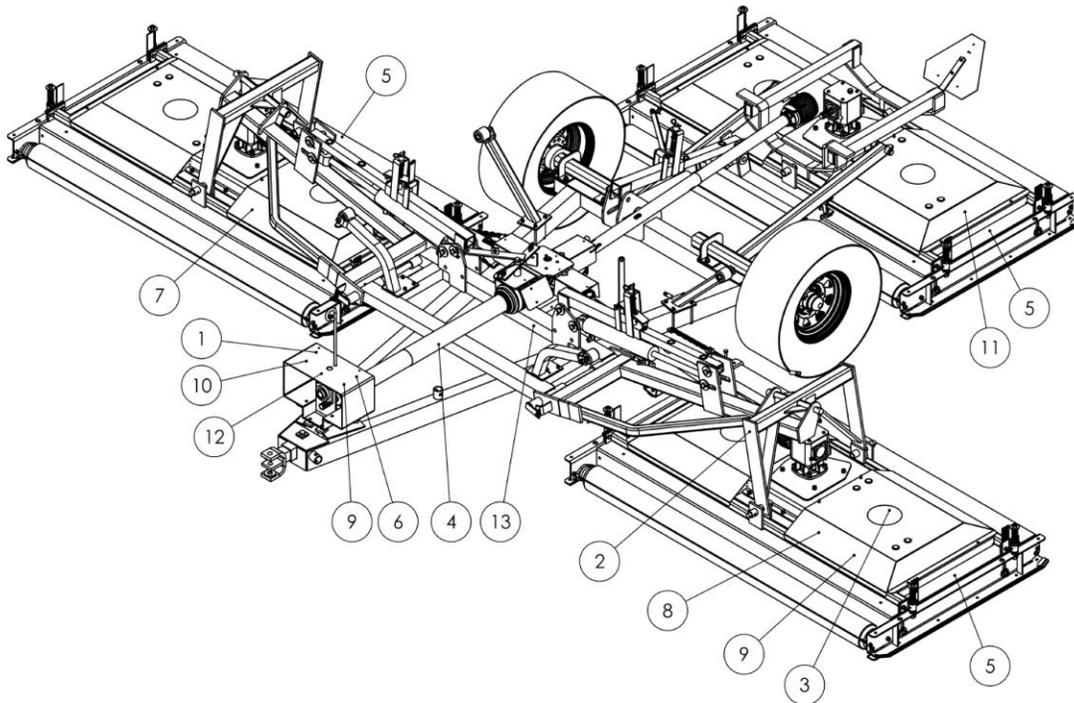
- ❖ To avoid accident or injury, do not allow anyone to operate this equipment without proper instructions. Any person who operates this equipment must be instructed in and be capable of the safe operation of the unit.
- ❖ Know your controls and how to stop tractor, engine, and mower quickly in an emergency.

OPERATING SAFELY:

- ❖ Shift tractor into neutral and disengage power take-off before starting tractor.
- ❖ Never allow riders on tractor or equipment.
- ❖ Use extreme care when operating on uneven terrain.
- ❖ Immediately stop mower and shut off tractor upon striking any object. Inspect mower and repair any damage before you continue mowing.
- ❖ Always turn off tractor before making any adjustments to mower, if operator has to dismount tractor.
- ❖ If mower becomes clogged, disengage power to mower and turn off tractor before dismounting.
- ❖ Always disengage PTO and be sure drive line has stopped rotating before raising decks into transport position.
- ❖ Always obey all local and state regulations when operating on public roadways and highways.
- ❖ Reduce speed while operating during wet conditions on slopes, especially when making sharp turns.

SAFETY & MAINTENANCE DECAL LOCATION ON MACHINE:

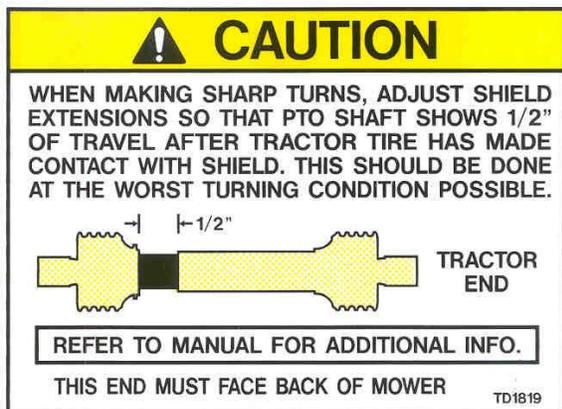
ITEM NO.	DESCRIPTION	ITEM NO.	DESCRIPTION
1	CAUTION - TURNING	8	GREASING SCHEDULE
2	CAUTION - READ MANUAL	9	PTO GREASING
3	CAUTION - REPLACE SHIELDS	10	NOTICE - HITCH SETUP
4	DANGER - PTO SHIELDS	11	MOWER MODEL
5	WARNING - BLADE HAZARD	12	COMPANY NAME
6	WARNING - OEM PARTS	13	SERIAL PLATE
7	CAUTION - DISENGAGE PTO		



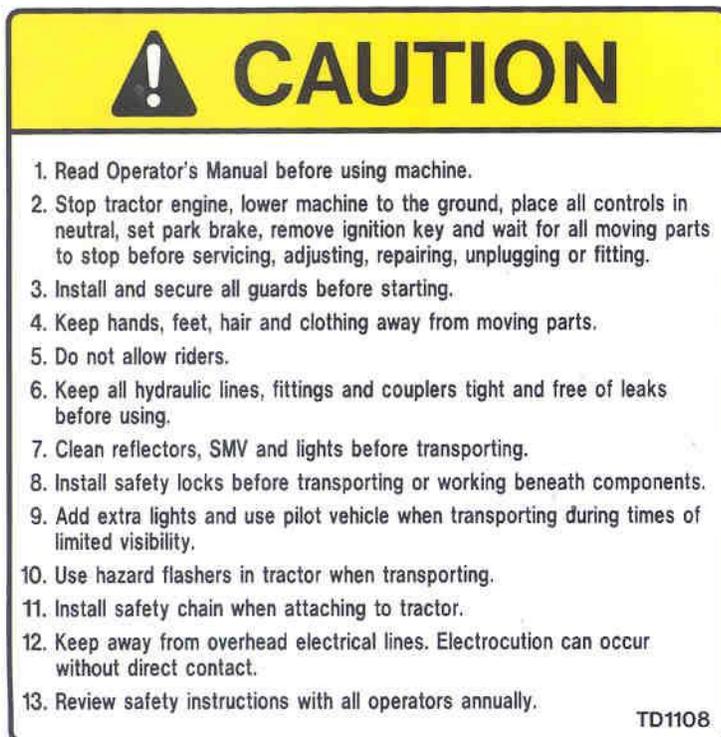
OBEDI THESE SAFETY DECALS:

- ❖ If decals become faded, damaged, or lost, replace immediately. Order Decal Kit, Part # 522002. Safety Decals shown below are located on machine as illustrated on sketch.

ITEM 1



ITEM 2



ITEM 3



ITEM 4



ITEM 5



ITEM 6



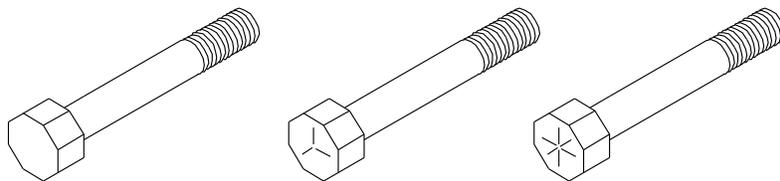
MAINTENANCE SAFETY:

- ❖ Never work on mower without safety locks in place, if decks are in raised position.
- ❖ Keep tractor and mower in good operating condition and all safety devices in place.
- ❖ Frequently check blade mounting bolts for tightness.
- ❖ Periodically tighten all bolts, nuts and screws and check that all cotter pins are properly installed to ensure mower is in a safe condition.

PROPER TORQUE FOR FASTENERS:

The chart lists the correct tightening torque for fasteners on Progressive Turf Equipment mowers. When bolts are to be tightened or replaced, refer to this chart to determine the proper torque except when specific torque values are assigned in the manual. Only SAE grade 5 fasteners are to be used in the assembly of this machine, or as otherwise specified in this manual.

Bolt Head Markings



SAE Grade 2
(No Dashes)

SAE Grade 5
(3 Dashes)

SAE Grade 8
(6 Dashes)

Recommended Torque in Foot Pounds (Newton-Meters)

Bolt Diameter (in.)	SAE Grade 5
5/16	21 (28)
3/8	38 (52)
7/16	55 (75)
1/2	85 (115)
9/16	125 (170)
5/8	175 (240)
3/4	300 (410)
7/8	450 (610)
1	680 (925)
1" L.H. Spindle Nut	60 (82)

ASSEMBLY INSTRUCTIONS

SET-UP

The mower is shipped in a 90% assembled condition to facilitate shipping of the mower in enclosed vans. Approximately 1 1/2 hours are required to complete the mower to field ready condition. Assembly will be easier if components are aligned and loosely assembled before tightening hardware. Recommended torque values are found on page 10. Select a suitable working area. A tractor or portable hydraulic supply is necessary to complete assembly.

CAUTION: Always use personal protection devices such as eye and ear protection during assembly.

WING DECKS:

Before removing any bolt or pin, the deck spreader fixture (PTE # 526498) needs to be placed underneath the mower frame, centered between the wing decks on the floor, see Fig 1 and Fig 2 below. This must be installed before lowering the decks to prevent the decks from pivoting underneath the mower frame.



FIG. 2



FIG. 3

SHIPPING BRACE AND LINK REMOVAL:

Once the deck spreader fixture is in place, wrap a ratchet equipped shipping strap around both wings and tighten to relieve tension on the shipping brace. Remove the pin clips on both ends of the brace and remove the brace. Loosen and remove shipping strap.

Connect mower to a double acting hydraulic supply. Lower decks to the ground, you will need to release the locks to do so. Note that two links per wing deck are installed between the deck itself and the deck swivel. Lift the wing to a point where there is no tension on the shipping links on one deck. Remove the one inch pins using 9/16" and 15/16" wrenches. In doing this you will remove the shipping links. Lower the wing and align deck swivel mounting points with those of the deck. Re-install the 1" pins and secure them with the 9/16" bolts that were removed. It may be necessary to move the deck to some degree to align pin mount holes on the deck and deck swivel.

INSTALLATION OF REAR DECK ROLLERS:

The rear deck must be completed with the installation of two side channels and front and rear rollers. The side channels have the rear deck height adjusters installed. The roller flange bearings are also installed on the roller axles and the set screws must be loosened to install the bearings on the side rails. A 4mm. allen wrench is supplied. The side channels are installed using the 5/8 X 2" carriage bolts supplied. Assemble the side channels to the deck skirts and leave somewhat loose. The rear height adjusters installed on the side channels must also be bolted to the deck top using the hardware supplied. At this time, install the front height adjuster using the hardware supplied.

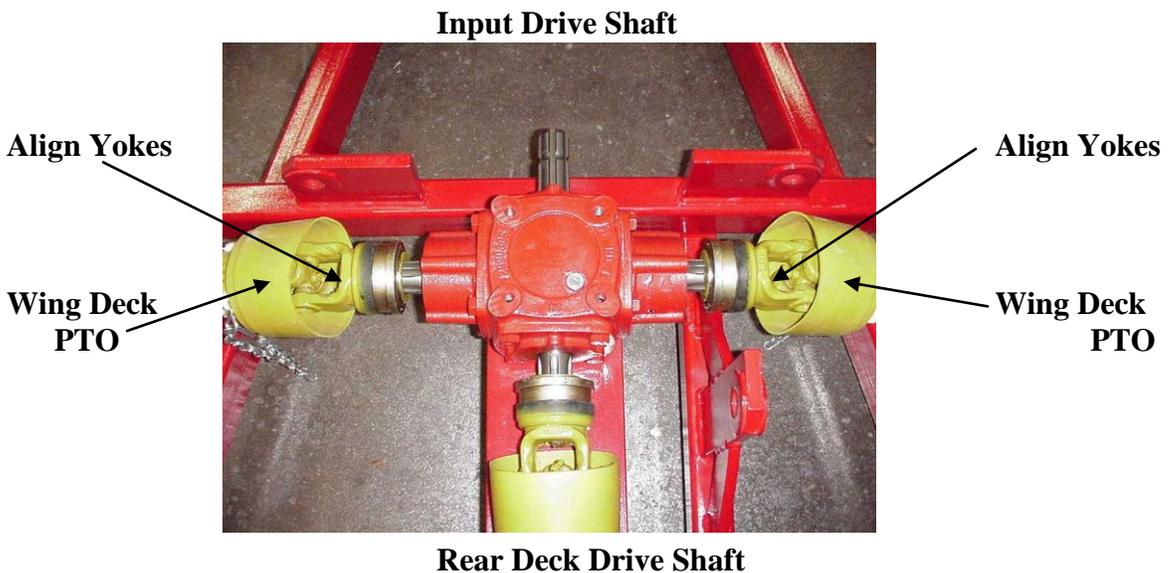
Do not tighten the bearing to the roller axle at this time. Roll the rollers in place and align holes. Bolt flange bearings in place using hardware supplied. Repeat on the front roller.

Install the front and rear stripper cable on the backside of the rollers
Tighten all hardware. The set screw on the roller axle must be tightened after all other hardware is tightened to avoid pre-load on this part. Use the 4 mm hex key supplied to do this. Rotate the adjusters to ensure that they work smoothly and do not bind.

INSTALLING DECK PTO SHAFTS:

The three identical PTO shafts are used to drive the mower decks. Each PTO shaft will have one end designated a tractor end. This end should be hooked up to the main gear box.

IMPORTANT: The PTO shafts from the two wing decks must be timed when mounted to the gear box. See photo below. Mount the one side first with the yoke laying flat. The opposite side must be mounted with the yoke laying as flat as possible. ie. Timed.

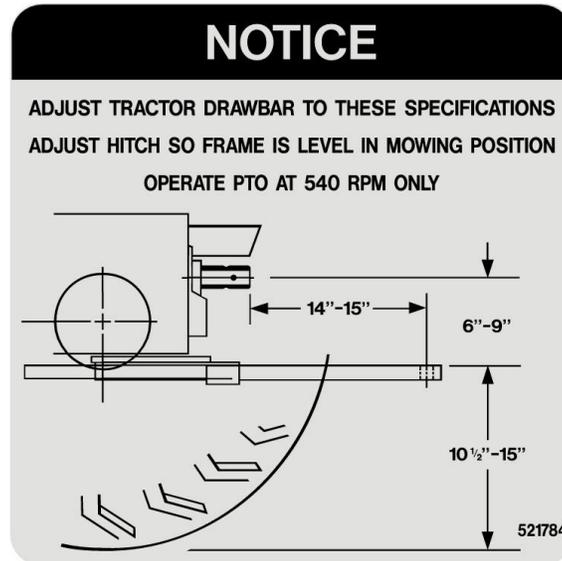


All PTO shafts have a short chain attached on both ends. Find a location to wrap or hook on short chain. Be sure that when decks are brought into transport position, the safety chain will not bind or pull PTO shield. Do not forget to install the PTO spacers to level the driveline. See section on “Hitching to the Tractor”

HITCHING MOWER TO TRACTOR:



NOTICE - Attach mower to drawbar only.



Drawbar should be adjusted so it is 14" to 15" from the centerline of the draw pin hole to end of PTO shaft. This is critical for proper PTO shaft operation.

Adjust hitch or drawbar so mower frame is at the most level position in relation with the ground. This will ensure proper flotation of the wing decks.



CAUTION - Safety chain must always be attached to towing vehicle.



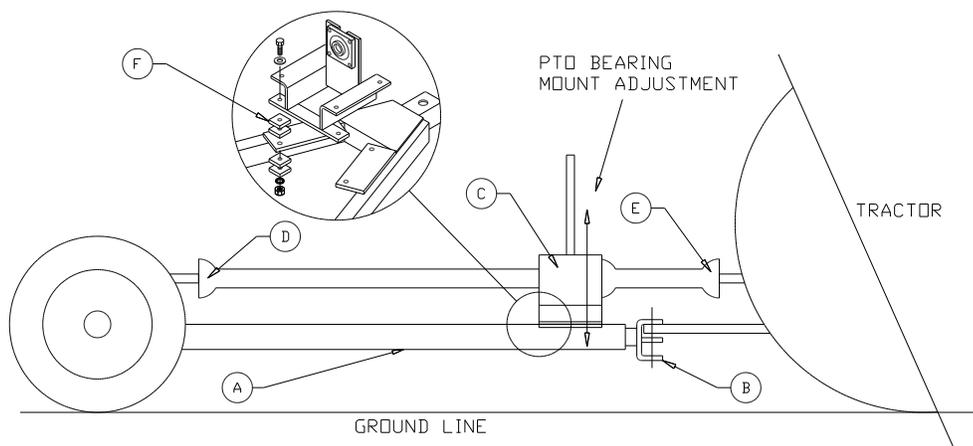
CAUTION - When towing mower on any roadways, lock brakes together. Use proper lighting and marking devices according to the local regulations.

NOTE: If the three-point hitch is attached to tractor, be sure it will not contact any part of the mower when making sharp turns. The hose support rod may have to be bent back slightly to clear the three point hitch arms.

LEVELLING THE MOWER & PTO:

For proper mower operation and maximum PTO life, the mower hitch and PTO driveline must be setup correctly.

- When the mower is connected to the tractor, the mower hitch frame “A” should be as close to level with the ground as possible.
- The connecting hitch “B” can be removed and turned over to give more height adjustments. Set in the best position for the mower frame to be as level as possible.
- To ensure proper life of the PTO shaft, the driveline from the mower gear box “D” to the PTO shaft “E” on the tractor should be in a straight line.
- Spacers “F” are provided under the hose support “C”, to allow adjustment up or down. Each spacer is $\frac{1}{2}$ ” high. Sixteen are provided, for a 2” total adjustment, four on each corner.



CONNECTING THE INPUT PTO SHAFT:

- Ensure that the tractor engine is shut off and the parking brake is locked.
- Holding the PTO against the end of the tractor PTO shaft, rotate the tractor PTO by hand until the shaft slides on slightly.
- Slide the locking collar on the PTO backwards, releasing the locking mechanism hold and slide the PTO on.
- Release the locking ring and pull the PTO shaft backwards until the locking mechanism snaps into place.
- Push the shaft forward and backwards to ensure that this is securely locked in place.



CAUTION - If the PTO shaft comes off during operation, it may cause personal injury and damage to the PTO shaft and tractor PTO. When checking, make sure the locking collar is locked, and that the shaft is not just jammed against the end of the tractor PTO shaft.

CHECK PTO LENGTH DURING TURNS:

During the mowing operation the tractor should be able to make turns without damage to the driveline. To ensure proper setup check the following conditions:

- a) With the tractor and mower aligned, and the input PTO is straight, turn the shields on the input PTO to check that the holes line up for greasing the input shaft tubes. If not, you will have to lengthen or shorten the drawbar. It should be 14 to 15” from the end of the PTO shaft to the center of the draw pin hole.
- b) With the tractor in the lowest gear and traveling very slowly, make a sharp turn to the right as required for mowing.
- c) Watch the PTO shielding to make sure the PTO shaft does not totally collapse. There should be 1” to 2” of black PTO shielding left at maximum turn. See picture below.



1” to 2” of BLACK

NOTE: This is not the worst condition. Making turns while the tractor is angling up a hill will cause the PTO shaft to collapse even more. The operator should avoid making sharp turns on uneven ground.

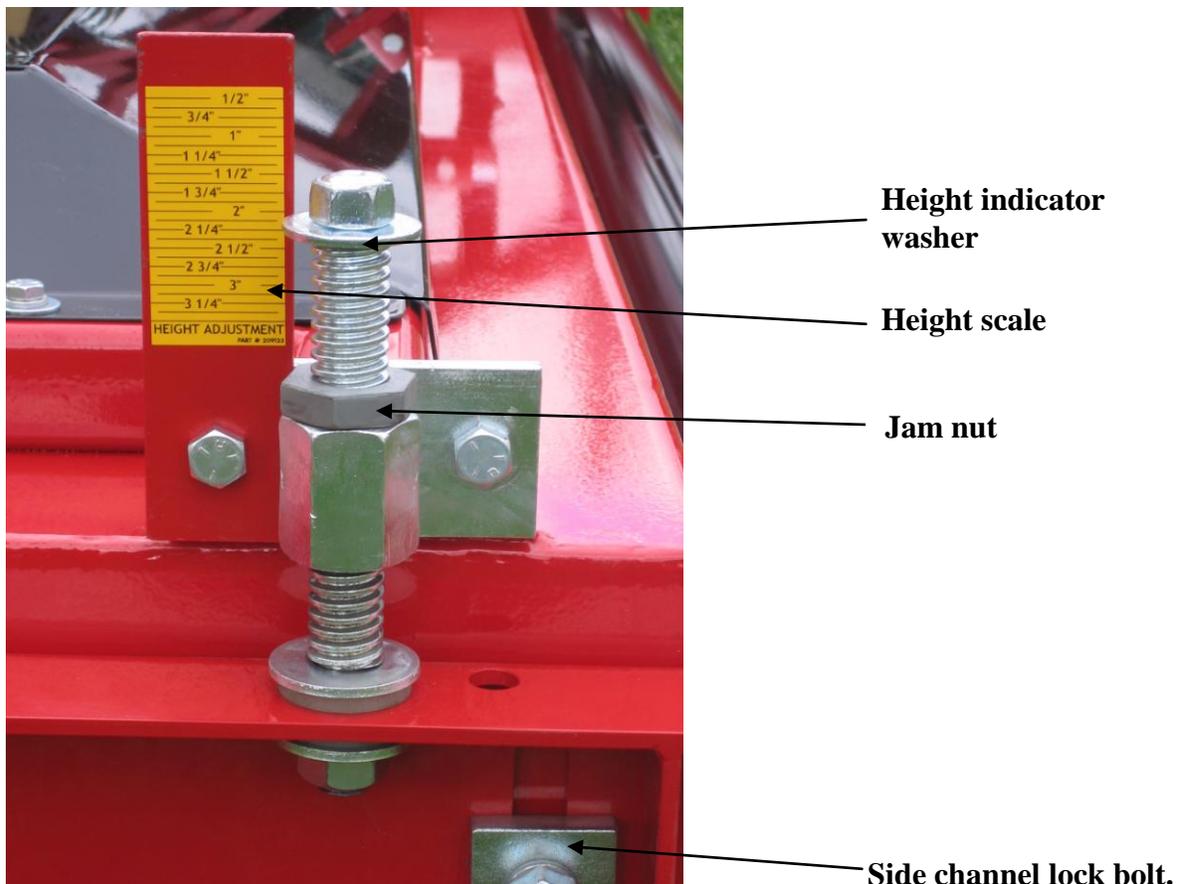
CUTTING HEIGHT ADJUSTMENT:

There are four height adjusters per mowing deck. Each adjuster (located in each corner of the deck) must be adjusted to the same height to ensure a smooth even cut. A wrench for this purpose is provided. Mower cutting height adjustment is made by turning a 5/8" nut on top of an acme threaded rod which makes up the height adjuster. A washer under the nut indicates the height against the decal. There are an infinite number of adjustments available from 1/2" to 4". Moving the adjuster up and down moves a side channel that mounts the front and rear rollers. The height decals at the back of the deck are set 1/4" lower, so that the back actually cuts 1/4" higher, this will provide a better cut, prolong the life of the blades, and reduce horsepower requirement.

To make a height adjustment, follow these steps:

- 1) Loosen the 2 locking bolts on the side channel
- 2) Loosen the ACME jam nut
- 3) Turn the 5/8" nut on top of the ACME threaded rod to desired height
- 4) Tighten ACME jam nut
- 5) Tighten the side channel locking bolts

TDR-22 HEIGHT ADJUSTER



OPERATING THE MOWER:

A careful and knowledgeable operator is the best insurance against an accident. Allow no riders on any equipment.

If tractor is equipped with R.O.P.S., use the seat belt for maximum protection.

Make sure that everyone is clear of the tractor and mower before starting the engine or operating.

Mowing:

Once in position to start mowing, the operator can lower the cutting decks to mowing position by pulling on the actuator rope and powering down the decks to mowing position.

Engage the PTO just above idle and bring the mower up to full PTO speed, Engage to appropriate gear in the tractor and proceed to mow.

It is advisable to mow double headlands on each end of the field to allow for a more sweeping turn at the end of a row as opposed to a tight turn. Sweeping turns will limit the scuffing of turf as the mower negotiates a turn.

“Quik Move” System:

Your TDR-22 is equipped with a “Quik Move” system. This feature allows the operator to lift all three cutting decks just off the ground to negotiate a tight turn without shutting down the PTO. Using this system will eliminate roller drag or scuffing while turning at the end of a row, when mowing ribbons or if a farm has irrigation ditches, the operator can move from section to section without shutting down the PTO and raising the decks to the full transport position, thus saving time.

To actuate the “Quick Move” system, the operator lifts the decks until the lock pin locks in position. This will lock the decks up in the Quick Lift position just off the ground. Once the mower is again in position to mow, the operator must power the decks up slightly and pull on the actuator rope until the lock pins release and then power the decks down. There is no need to disengage the PTO.

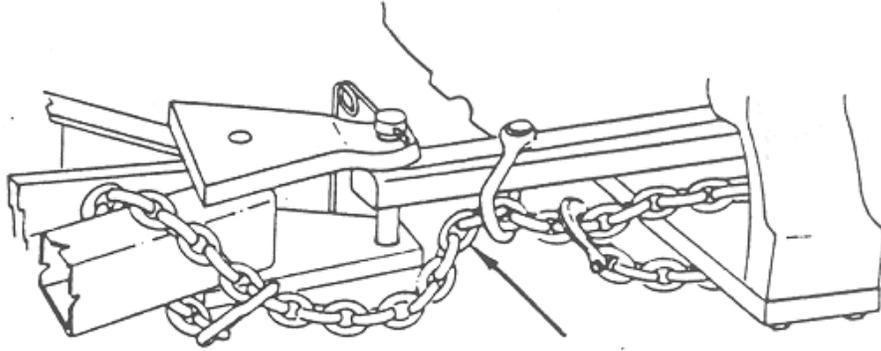
DAILY CHECK LIST:

1. Always wear relatively tight and belted clothing to avoid entanglement in moving parts. Wear sturdy, rough soled work shoes. Never operate tractor or implements in bare feet, sandals or sneakers
2. Check that mower is properly and securely attached to tractor with a safety chain.
3. Ensure all safety shielding is properly installed and check that all nuts and bolts are secure and pins are properly cotter pinned.
4. Check condition of blades and security of attachment.
5. Ensure mower is properly mounted, adjusted and in good operating condition.
6. Clear area of stones, branches or other debris that might be thrown causing injury or damage.
7. Never permit any person other than the operator to ride or board the tractor at any time.
8. Check that all lubrication points with grease fittings have been lubricated as per schedule.
9. Check all gearboxes for proper amount of gear oil. Mower must be on level surface when this is done.

Be sure actuator pull rope is properly secured and will not become entangled in PTO shaft.

SAFETY CHAIN:

It is recommended that the safety chain provided with this mower be attached to the towing vehicle at all times.



SAFETY CHAIN

Install a safety chain as shown. After attaching the safety chain, make a test run to the left and right for a short distance to check for proper adjustment. Readjust to eliminate a loose or tight chain.

TRANSPORTING MOWERS:



CAUTION - When traveling on public roadways, use flashing amber lights and S.M.V. emblem on rear of mower to provide greater visibility to other traffic.

Once mower is in the raised position, activate tractor hydraulic control valve slightly so that the cylinders will extend and allow the locks to be totally engaged. This way there will be no sudden surges on the hydraulic system when traveling over tough terrain.



WARNING - When towing this mower the following information concerning road speed should be strictly adhered to.

WEIGHT OF TOWING VEHICLE

4500# or more
Less than 4500# but
More than 2300#
Less than 2300#

MAXIMUM ALLOWABLE ROAD SPEED

Up to 20 MPH (32Km/H)
Up to 10 MPH (16Km/H)

DO NOT TOW



CAUTION - Always have safety chain attached to towing vehicle.

TIRES:

Upon receiving your mower, check air pressure in the tires and adjust according to specifications.

Main Frame Tires – 32 PSI



CAUTION - Never inflate tires beyond 35 pounds per square inch to seat beads. Inflation beyond 35 PSI pressure before seating the bead may break the bead or even the rim with an explosive force. If beads have not seated by the time the pressure has reached 35 PSI, deflate the assembly, move tire to another position on the rim and re-lubricate. Inflate tire and inspect both sides of the tires to be sure beads are seated properly. If not, deflate tire, unseat beads and repeat the above mounting procedure. After properly seating beads adjust to pressure recommended.

POWER TAKE-OFF:



CAUTION - Keep all safety shields in place.



CAUTION - When operating the power take-off, be sure the tractor shield is always in place, covering the exposed power take-off shaft.



WARNING - Before dismounting from the tractor, stop the power take-off, put tractor in neutral, set brakes in lock position and shut off engine.



CAUTION When ready to engage PTO shaft, be sure engine RPM is at idle speed. Engaging PTO at full throttle will cause high shock loads to drive line, with the potential for future failure.

NOTE: Do not exceed the recommended PTO speed of 540 RPM.

MAINTENANCE LUBRICATION:

GREASING:

A properly maintained lubrication schedule will provide a smooth running machine for many years. All pivot locations have grease fittings. The following information shows and describes where all lubrication points are located. Use a quality EP2 bearing grease or equivalent.

DECKS	P.T.O. SHAFTS	FRAME	
<ul style="list-style-type: none">• Spindles* (See Manual)• 3 Pivots per Wing Deck*• 7 Pivots on Rear Deck* *As Required	<ul style="list-style-type: none">• See TDR-22 drive shafts below	<ul style="list-style-type: none">• 8 Pivot Locations*• 2 Wheels* *As Required	
<table border="1"><tr><td>CHECK FOR PROPER OIL LEVEL IN GEAR BOXES DAILY</td></tr></table> GREASING SCHEDULE & LOCATION			CHECK FOR PROPER OIL LEVEL IN GEAR BOXES DAILY
CHECK FOR PROPER OIL LEVEL IN GEAR BOXES DAILY			

TDR-22 DRIVE SHAFTS:

Your TDR-22 mower is equipped with our **new 100 hour drive shafts**. This means that greasing of the shafts must be done only every 100 hours of use, or 8 to 10 days of use. This applies to the main input, intermediate and deck shafts supplied with this mower. These shafts are also equipped with the EASY LOCK GUARD SYSTEM. Please see the last page of this manual for instructions. Page 8, item 9 shows location of PTO grease points.

BLADE SPINDLE GREASING:

The top bearing on all spindle assemblies has a shield only. This allows grease to exit and relieves any pressure build up inside spindle housing when greasing. Greasing of blade spindles should continue until grease can be seen exiting between the top bearing. Some working conditions will require this operation to take place every 4 to 5 running hours because of hot working areas. Cooler working areas will only require greasing every 8 to 10 hours. A proper greasing schedule can only be determined by operator, depending on working conditions in your particular area.

Grease Compatibility

What Grease Is:

-Grease is essentially a distilled petroleum product in the form of mineral oil (or a synthetic) which has a thickening agent such as lithium, calcium, barium, sodium, or aluminum.

-Many of the thickeners will work for similar situations, but **when mixing greases with different thickeners, one must review compatibility**. Grease incompatibility will actually decrease the lubrication ability of the grease, and cause premature part failure.

-There may be other additives in the grease that impart special properties. These properties may be “high temperature”, “extreme pressure”, etc.

What We Use:

- Our bearing supplier uses Shell Alvania 2

- Progressive uses Texaco Multifak EP 2

- EP means extreme pressure

- Both greases have:

- A mineral oil base

- A lithium thickener

- The mineral oil has a NLGI Grade 2

- Both greases are compatible with each other

Note:

-If a thickener other than lithium is used, the existing grease will be contaminated and the lubrication properties may be lost.

-If a synthetic base oil is used rather than a mineral base oil, the grease will again be contaminated and the lubrication properties may be lost

-Molybdenum Disulfide (Moly) is an additive used in slow moving, extreme load applications. The particles in the “Moly” will actually increase bearing wear in a mower spindle. Our grease does not contain Moly.

-The blade spindle temperature should never go above 120°F if properly greased; we do not recommend high temperature grease.

A grease with these features is considered to be a “General Purpose Grease”. Use on all grease point locations on your Progressive Mower.

Our Recommendation for Grease Compatibility:

The grease you use for the blade spindle assemblies must have these properties:

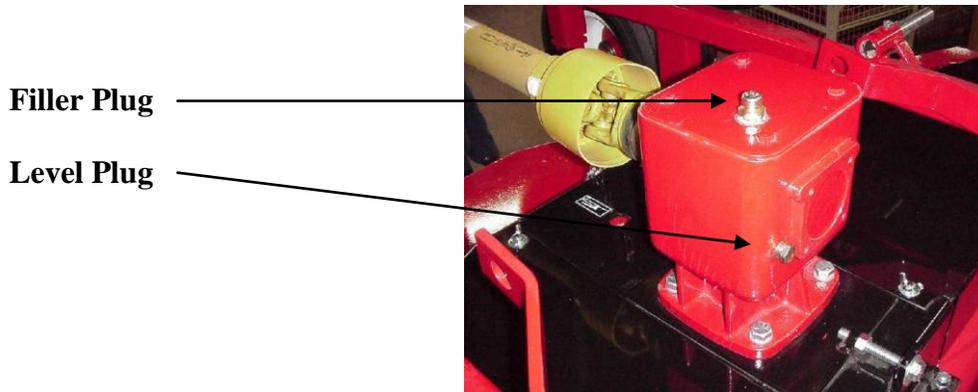
- NLGI grade 2
- Lithium thickener (NOT LITHIUM COMPLEX OR LITHIUM 12-HYDROXY)
- Kinematic Viscosity at 40°C is no greater than 190 cSt
- Dropping Point Less than 400° F
- General Purpose Grease, Not Heavy Duty
- No MOLY (molybdenum disulphide) additives in the grease
- No synthetic grease
- No High Temperature Grease
- Check the properties of the grease you wish to use with your supplier prior to use.

GEAR BOX OIL LEVELS:

**IMPORTANT! DO NOT OVERFILL! MOWER MUST BE LEVEL
WHEN CHECKING GEAR BOX OIL LEVEL**

DECK GEAR BOXES:

Gear boxes all have an oil level plug located on the side of the gear box. Oil should reach the bottom of this hole. If oil level is low, add oil through top plug hole of casing until oil just starts to flow out of side oil level hole. Replace and tighten plugs. Use 80W90-gear oil or equivalent.



MAIN GEAR BOX:

The main gear box has a combination filler plug and dip stick. Remove the plug, dry off the dip stick and replace to check oil level. It must touch the oil in the gear box. Add oil as required. Use 80W90 gear oil or equivalent. Replace and tighten the plug.





WARNING - Turn tractor engine off before performing any maintenance.



CAUTION - Always use personal protection devices such as eye and ear protectors when performing maintenance functions.



WARNING - When completing a maintenance or service function, make sure all safety shields are installed before placing mower in service.

BLADE SERVICING:



WARNING - Be sure safety locks are in place when working on decks in the raised position. The tractor hydraulic system could fail, causing decks to fall and crush anything under them.

- ❖ Do not handle mower blades with bare hands. Careless or improper handling may result in serious injury.
- ❖ Inspect blades before each use to determine that they are mounted tightly and are in good condition. Replace any blade that is bent, excessively nicked, worn or has any other damage. Small nicks can be ground out when sharpening.



WARNING - Only original equipment blades should be used when replacing worn out mower blades. They are made of special steel alloys and subjected to rigid heat-treat and inspection requirements. Substitute blades may not meet these rigid specifications and **MAY BE DANGEROUS.**

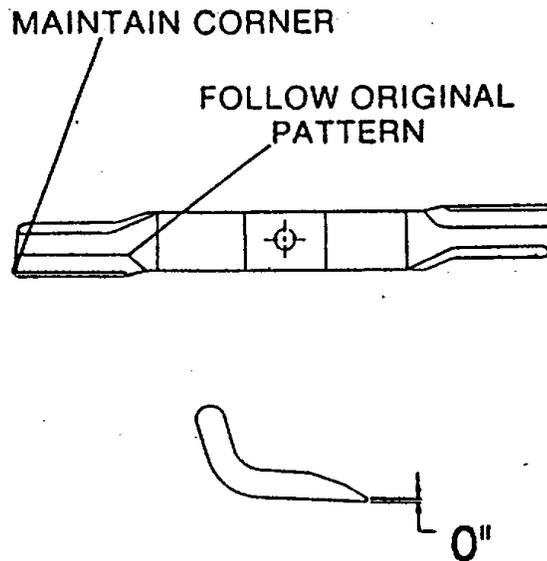
BLADE REMOVAL AND INSTALLATIONS:

Two, 1/2 X 1 3/4" grade 5 bolts with locks washers and nuts hold blade to blade spindle support bar. When changing blades, be sure that these fasteners are in good condition so they will not come loose during operation.

BLADE SHARPENING:

IMPORTANT - When sharpening blades be sure to balance them. Unbalanced blades will cause excessive vibration, which can damage blade spindle bearings. Vibration may also cause structural cracks in spindle housing.

Follow original sharpening pattern as shown. Sharpen blade to a razor edge. Protect hands when sharpening. Do not sharpen backside of blade.



BLADE SHARPENING

SPINDLE INSPECTION:

Spindles are equipped with two roller ball bearings. Adjustment is set by tightening the 1" left hand nut to 60 ft-lbs. torque for proper setting.

Periodically inspect blade spindles by grasping blade, and moving from side to side. If any free play is noted, replace or repair.

SPINDLE ASSEMBLY REMOVAL:

Remove blade from spindle.

Remove belt shield. Loosen 4 bolts that hold gear box to mount. Loosen ½ x 3 ½" tap bolts and slide gear box toward front until belt is easy to remove.

Remove belt.

Remove 4 bolts attaching spindle assembly to mower frame and remove as a unit, since pulley will come out through the hole in the deck.

SPINDLE ASSEMBLY INSTALLATION:

Reverse above procedure. Be sure spindle mounting area of deck is clean of any foreign material before attaching spindle assembly.

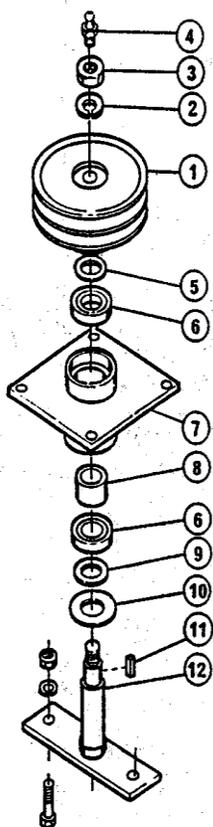
SPINDLE REPAIR:

Spindle repair requires special skills and tools. If your shop is not properly equipped or your mechanics are not properly trained in this type of repair, you may be time and money ahead to use a new spindle assembly.

Remove pulley from spindle assembly. Place assembly in press and force spindle down through housing. Once pressed apart, replace bearings, as removal will have damaged bearings internally.

ASSEMBLY OF SPINDLE:

Only use a press that has the ram and bed 100% square to each other. If bearings are not square in housing, bearings will wear out prematurely. Press on outer race when inserting into hub and press on inner race when installing on spindle.



- 1 - PULLEY
- 2 - L.H. LOCKWASHER
- 3 - L.H. NUT
- 4 - GREASE FITTING
- 5 - SHIM
- 6 - BEARING
- 7 - SPINDLE HOUSING
- 8 - BEARING SPACER
- 9 - SHIM
- 10 - DIRT SHIELD
- 11 - 1/4" SQ. X 1 11/16" KEY
- 12 - BLADE SPINDLE

If bearings are being changed, be sure to check bearing spacer for wear. If wear is noticed, insert new spacer. This is critical because if spacer is short by only .010", the top bearing will start to bind and will result in premature failure.

Bearing with seal and shield combination will be pressed into the blade side of the hub first with the seal side facing out. Next, set spindle on press bed, install dirt shield and shim first (as per diagram) set hub, bearing end down, on to spindle. You must use a tube (Note: both ends must be square) which will slide over spindle and press on inner race of bearing, until seated against shim.

Insert bearing spacer tube with hole end up. Set remaining bearing with shield side up, open side on first, on to spindle. Press on inner race (this bearing will be a loose fit in the hub so it will seat itself properly).

When all parts have been installed on spindle, torque left hand nut to 60 ft-lbs. and then tighten set screws in pulley. Once the assembly is complete, fill with quality grease until it can be seen exiting the top bearing. Rotate the housing six revolutions by hand so the bearings will have the grease worked into them, and at the same time check for free movement. The assembly is now ready for installation into the mower deck.

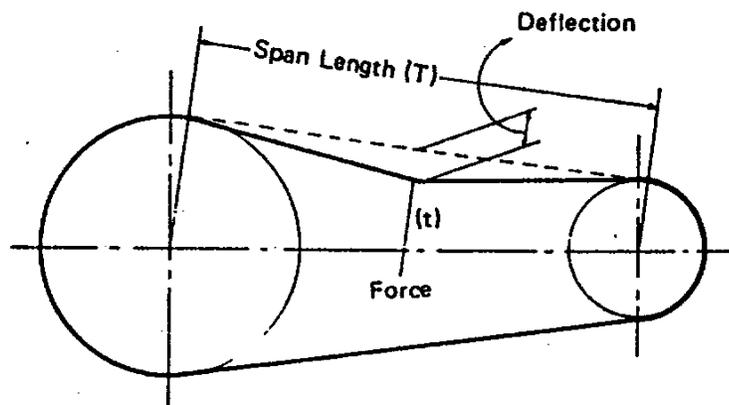
“V” BELT ADJUSTMENT:

There are three locations per deck to adjust the tension of the four deck belts used. Begin by loosening 4 bolts at the base of the gear box. Adjusting long threaded bolt slides the gear box back, tightening belt. After proper tension is achieved, tighten 4 bolts at the base of gear box. You may have to place a ½” nut under the head of the long threaded bolt to increase your adjustment length. This will tension the two inside belts. The two outside belts have a manual adjuster using a similar treaded bolt. Loosen the nut on the idler pulley. Tension the belt using the threaded bolt. Tighten the nut on the pulley and the locknut on the adjuster bolt.

When changing belts, removal of grease fitting from the top of the center spindle will make installation easier. Be sure belts run in proper groove.

“V” BELT TENSION:

Proper belt tensioning is a fundamental factor in the successful V-belt operation. Lack of tension will cause slippage, and too much tension will cause excessive belt stretch as well as damage to the drive components, such as bearings and shafts. Therefore, to assure proper belt tension, the following procedure is recommended.



CHECKING BELT TENSION

At the mid-point of the span, apply a deflection force with a spring scale in the direction perpendicular to the span until the belt is deflected the 3/8”.

The recommended force to deflect the belt is a minimum of 4.9 lbs. to a maximum of 7.3 lbs.

The first 24 to 48 hours of operation is the belt “run in” period. To ensure satisfactory belt performance, belt tension should be checked during this time period.

HYDRAULICS:

The hydraulic system on your Progressive mower is a simple cylinder system used to raise and lower the cutting decks into position. Each cylinder contains a .035 diameter restrictor orifice, which is located on the rod end to slow the speed of travel.



Restrictor Orifice

When reconnecting the quick disconnects to the tractor, be sure that both ends are clean. Dirt in the hydraulic system can block the orifice in the line throttle valve or even score the cylinder tubes.

Hydraulic fluid escaping under pressure has enough force to penetrate the skin. See a doctor at once if injured by escaping fluid. During your daily inspection repair all leaks before they create a major problem. Relieve all pressure before working on, or disconnecting the line in the hydraulic system.

If crimp-on hose ends are ever changed, be sure they are compatible with the hose, to provide the proper crimping pressure.

TROUBLE SHOOTING:

PROBLEM	CAUSE	REMEDY
Belt Slippage	Lack of Tension Oily Drive Conditions	Increase Tension Clean up Drive
Rapid Belt Wear	Belt Slippage Belt not in Proper Groove	Increase Tension Place in Proper Groove
Belt Squeal	Belt Slippage	Increase Tension
Over-heated Bearings	Belt Slippage Excessive Drive Tension	Increase Tension Tension Drive Properly
Wing Deck, Corner Support Bent	Insufficient Spring Tension	Increase Tension by Adjusting Eye Bolt
Wing Locks Hard to Disengage	Cylinder not Pulling Wing up all the Way	Adjust Clevis on end of Cylinder
Mower Deck will not Lower	Orifice in Line Throttle Valve Plugged	Remove Line Throttle Valve, Remove Obstruction from Orifice and Reassemble

NOTES:

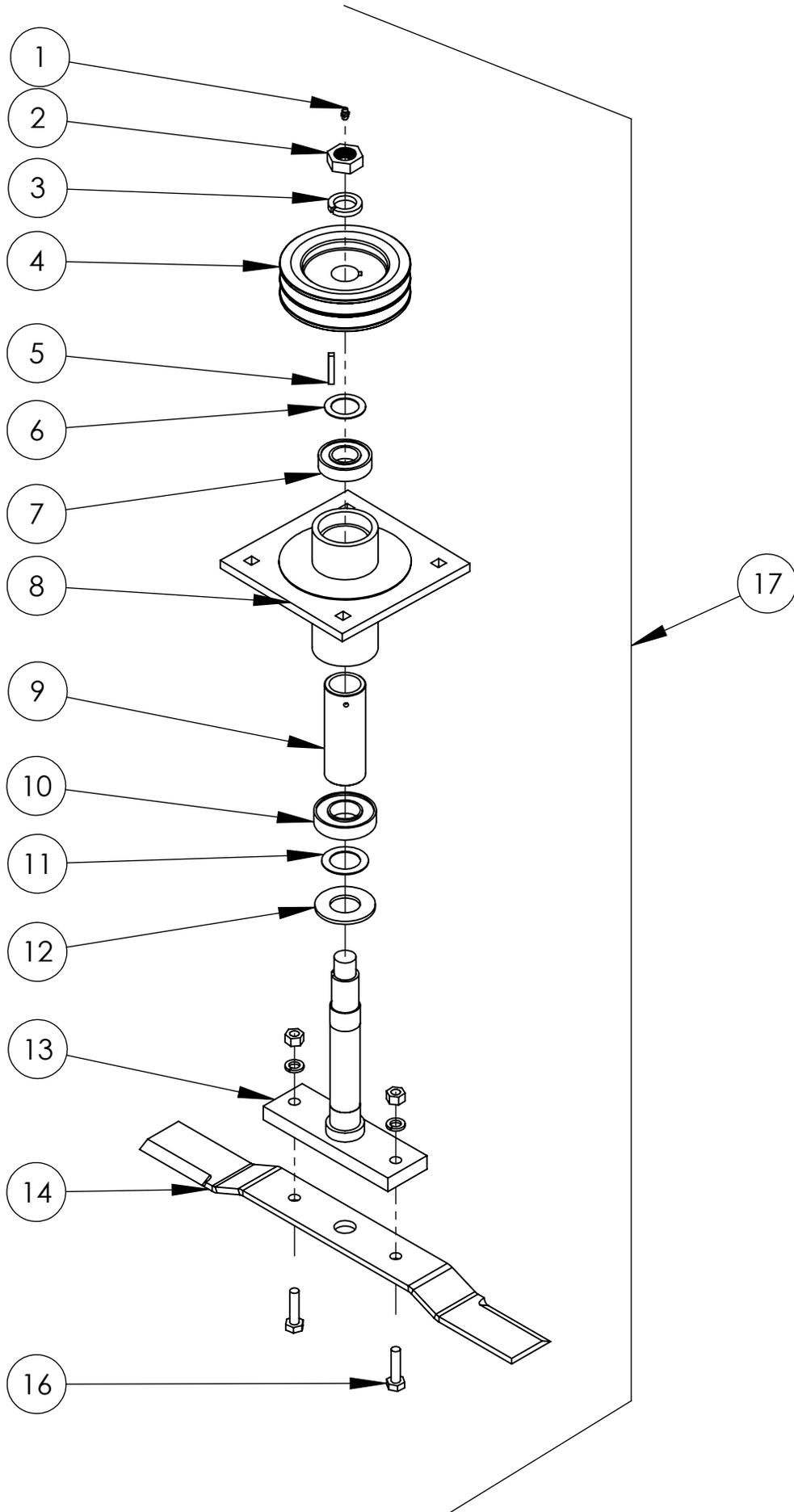
TDR-22 FINISHING MOWER PARTS MANUAL

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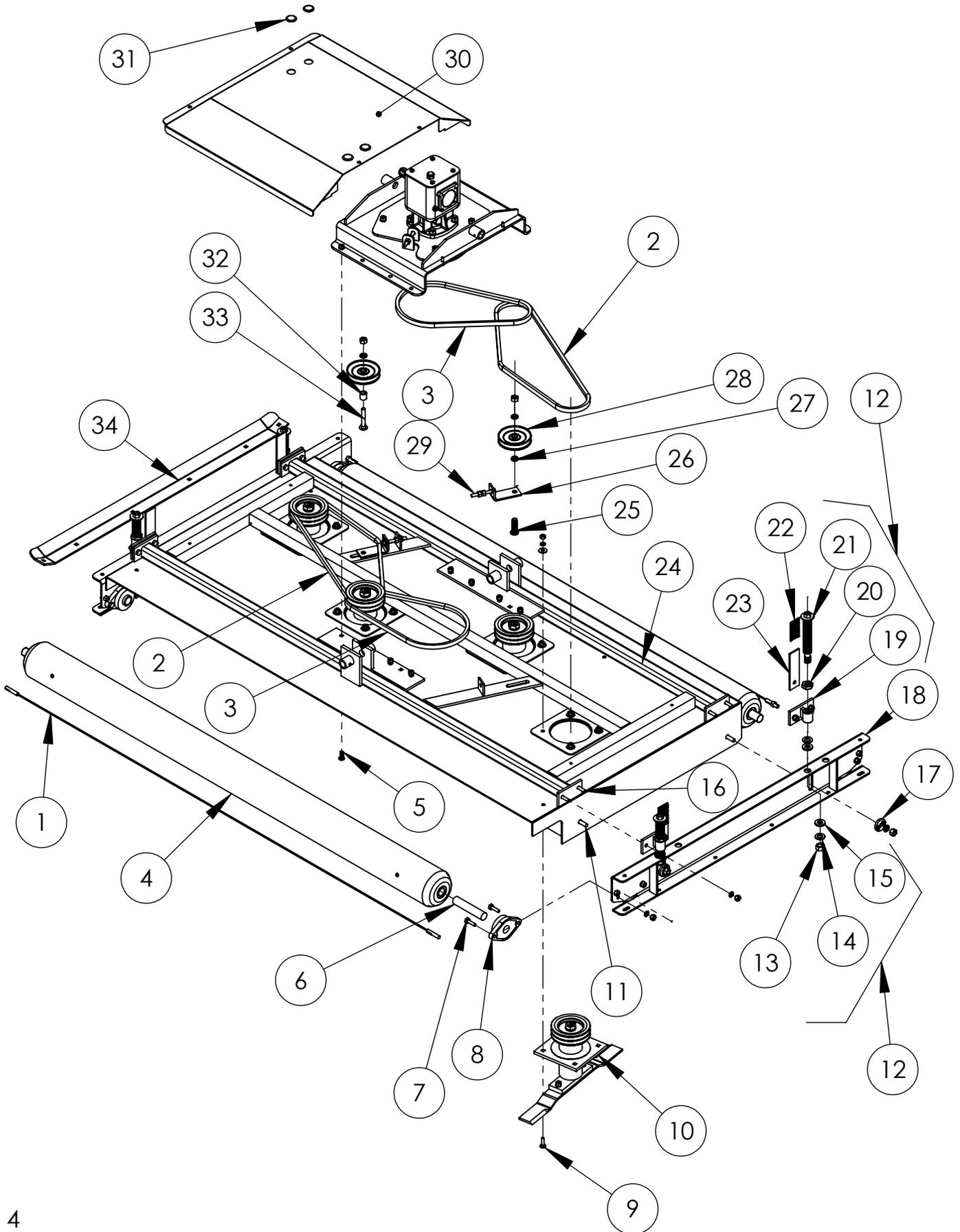


BLADE SPINDLE ASSEMBLY



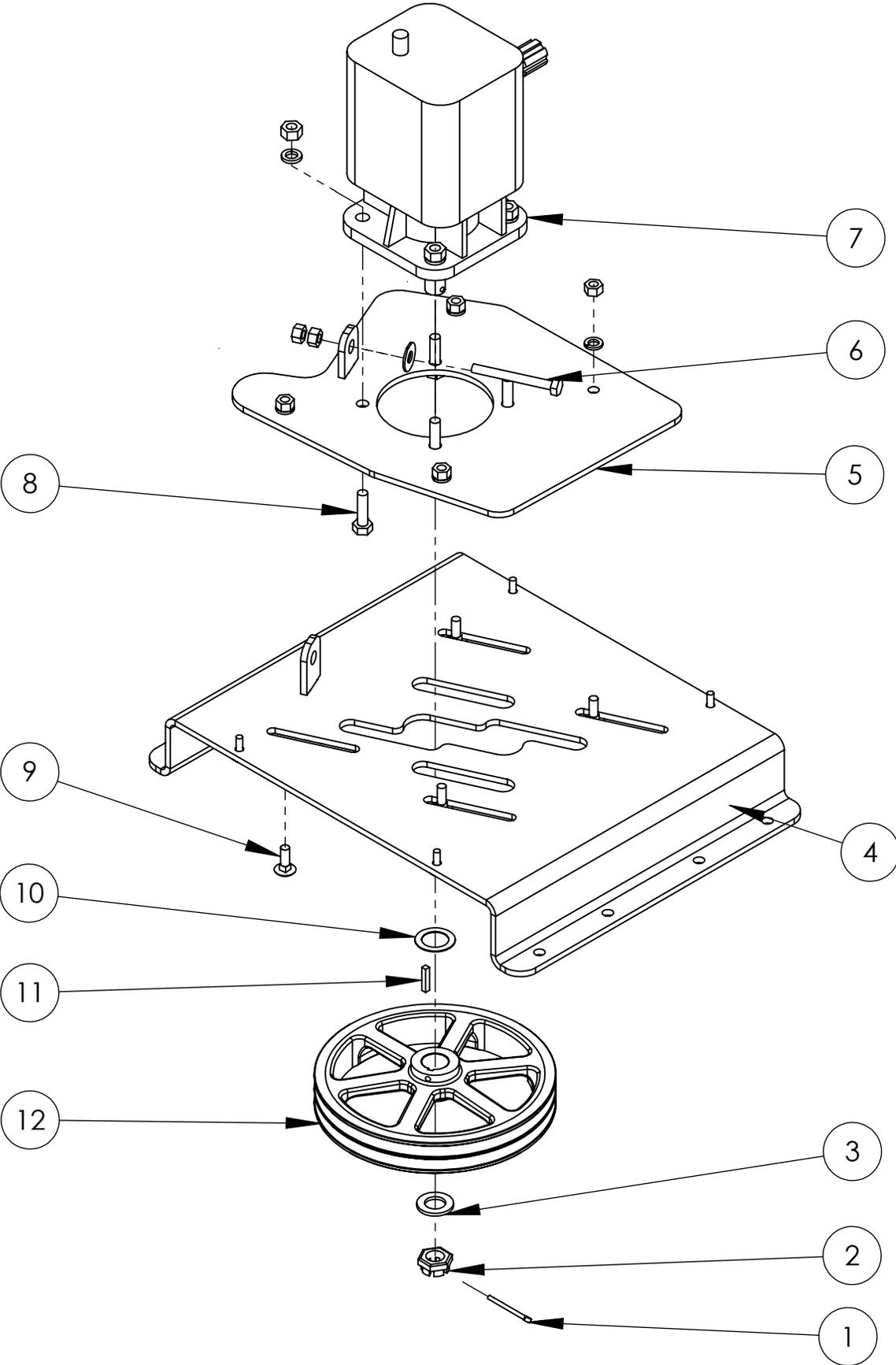
BLADE SPINDLE ASSEMBLY			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	O.L.	GREASE FITTING 1/4 - 28, STR	1
2	521003	HEX NUT- L.H.	1
3	521002	L.H. BLADE SPINDLE LOCKWASHER (3 PER KIT)	1
4	521775	5.9" BLADE SPINDLE PULLEY	1
5	O.L.	1/4" SQ. x 1 9/16" KEY	1
6	521004	SHIM WASHER - 1.250" (9 PC KIT)	1
7	521005	BEARING - TOP	1
8	526092	SPINDLE HOUSING	1
9	526096	BEARING SPACER TUBE	1
10	521445	BEARING - BOTTOM	1
11	521008	1 3/8" SHIM WASHER (9 PER KIT)	1
12	521009	DIRT SHIELD (3 PER KIT)	1
13	526098	BLADE SPINDLE	1
14	522610	24" HIGH LIFT BLADE KIT (6 PCS)	2
15	522618	24" LOW LIFT BLADE KIT (6 PCS)	2
16	O.L.	1/2" x 1 3/4" GR5 HEX BOLT, WITH LOCKWASHER AND NUT	2
17	526278	BLADE SPINDLE ASSEMBLY TDR-22	1
-	-	NOTE: QUANTITIES ARE FOR ONE COMPLETE SPINDLE ASSEMBLY	-
-	-	O.L. - OBTAIN LOCALLY	-

DECK ASSEMBLY



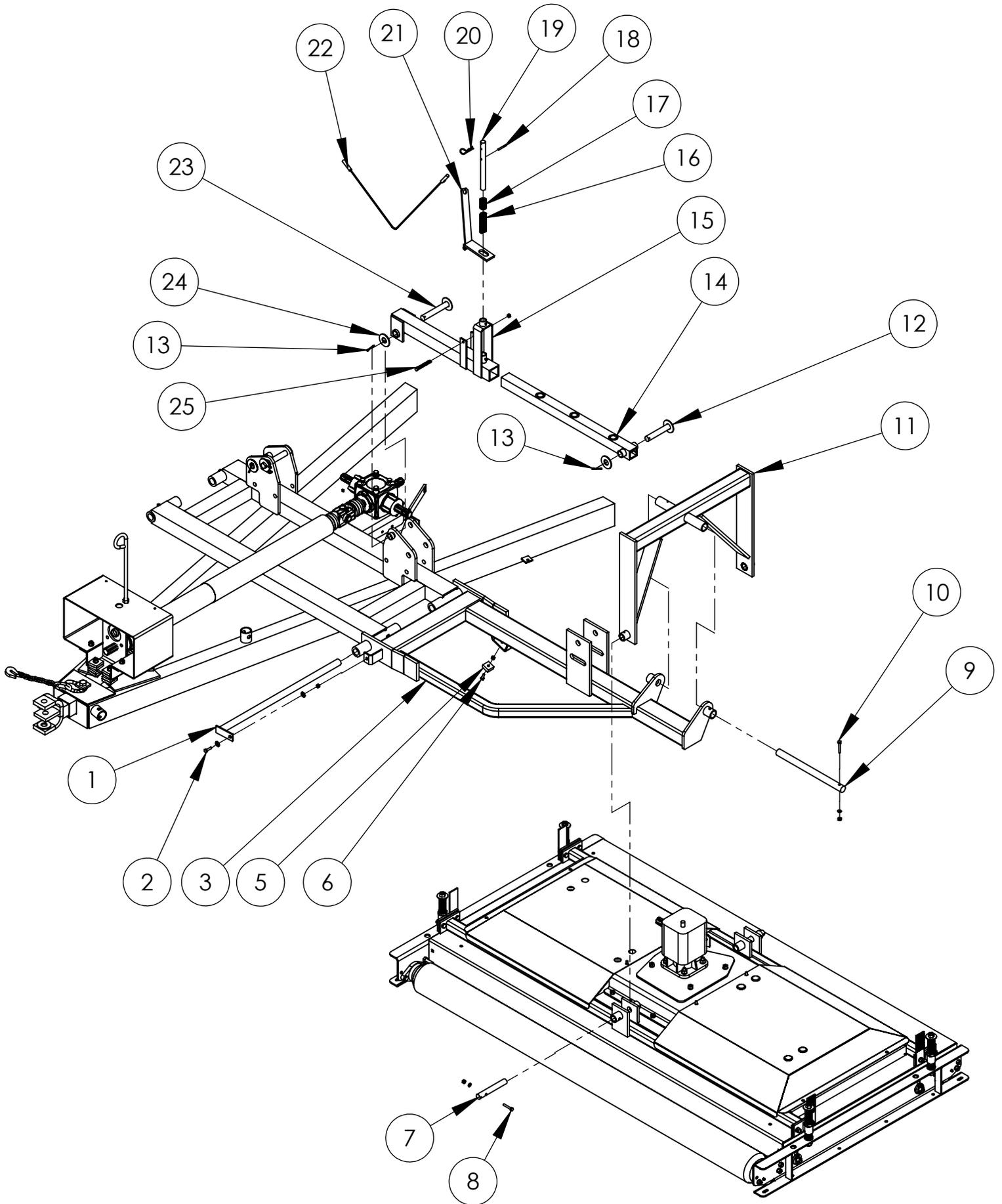
DECK ASSEMBLY			
ITEM	PART #	DESCRIPTION	QTY.
1	526276	ROLLER WIPER ASSEMBLY	2
2	212035	BELT - B66	2
3	212030	BELT - B50	2
4	526188	ROLLER WITH SHAFTS	2
5	O.L.	7/16" x 1 1/4" GR5 CARRIAGE BOLT, LOCK AND NUT	8
6	526494	ROLLER SHAFT REPLACEMENT KIT	4
7	O.L.	1/2" x 1 1/2" HEX BOLT, LOCK AND NUT	8
8	213017	1 1/4" FLANGE BEARING 2 BOLT	4
9	O.L.	7/16" x 1 1/2" GR5 CARRIAGE BOLT, FLAT WASHER, LOCKWASHER AND NUT	16
10	526278	BLADE SPINDLE ASSY - TDR-22	4
11	O.L.	5/8" x 2" GR5 CARRIAGE BOLT, LOCK AND NUT	4
12	526252	TDR HEIGHT ADJUSTMENT KIT (ITEMS 13,14,15,19,20,21)	4
13	O.L.	3/4" NC GR5 ALL METAL LOCK NUT	4
14	526365	3/4" FLAT WASHER(8 PER KIT)	1
15	526137	DECK ADJ. NYLON WASHER (8 PER KIT)	1
16	O.L.	1/2" x 1 3/4" GR5 HEX BOLT, LOCK AND NUT	8
17	526148	CHANNEL CLAMP WASHER (4 PER KIT)	1
18	526186	TDR-22 DECK CHANNEL	2
19	526340	DECK ADJUSTMENT BRACKET	4
20	526144	ACME JAM NUT	4
21	526176	ACME HEIGHT ADJUSTMENT ROD	4
22	526491	TDR HEIGHT DECAL KIT (6PCS)	4
23	526125	HEIGHT DECAL PLATE	4
24	526216	DECK - TDR-22	1
25	O.L.	5/8" x 2 1/2" GR5 CARRIAGE BOLT, LOCK AND NUT	1
26	526331	IDLER PULLEY BRACKET	2
27	526335	IDLER PULLEY BUSHING SHORT	1
28	212009	IDLER PULLEY 5"	2
29	O.L.	1/2" x 3 1/2" NC GR5 TAP BOLT , WITH FLAT WASHER AND 2 NUTS	2
30	526260	TDR-22 DECK SHIELD	2
31	526492	SNAP IN HOLE PLUG (12 PER KIT)	1
32	600225	FIXED IDLER BUSHING	1
33	O.L.	5/8" x 3 1/2" GR5 CARRIAGE BOLT, LOCK AND NUT	1
34	526404	OPTIONAL DECK SKID SHOE KIT COMPLETE WITH HARDWARE	1
-	-	NOTE: QUANTITIES ARE FOR ONE DECK ASSEMBLY ONLY	-
-	-	O.L. OBTAIN LOCALLY	-

GEARBOX MOUNT ASSEMBLY



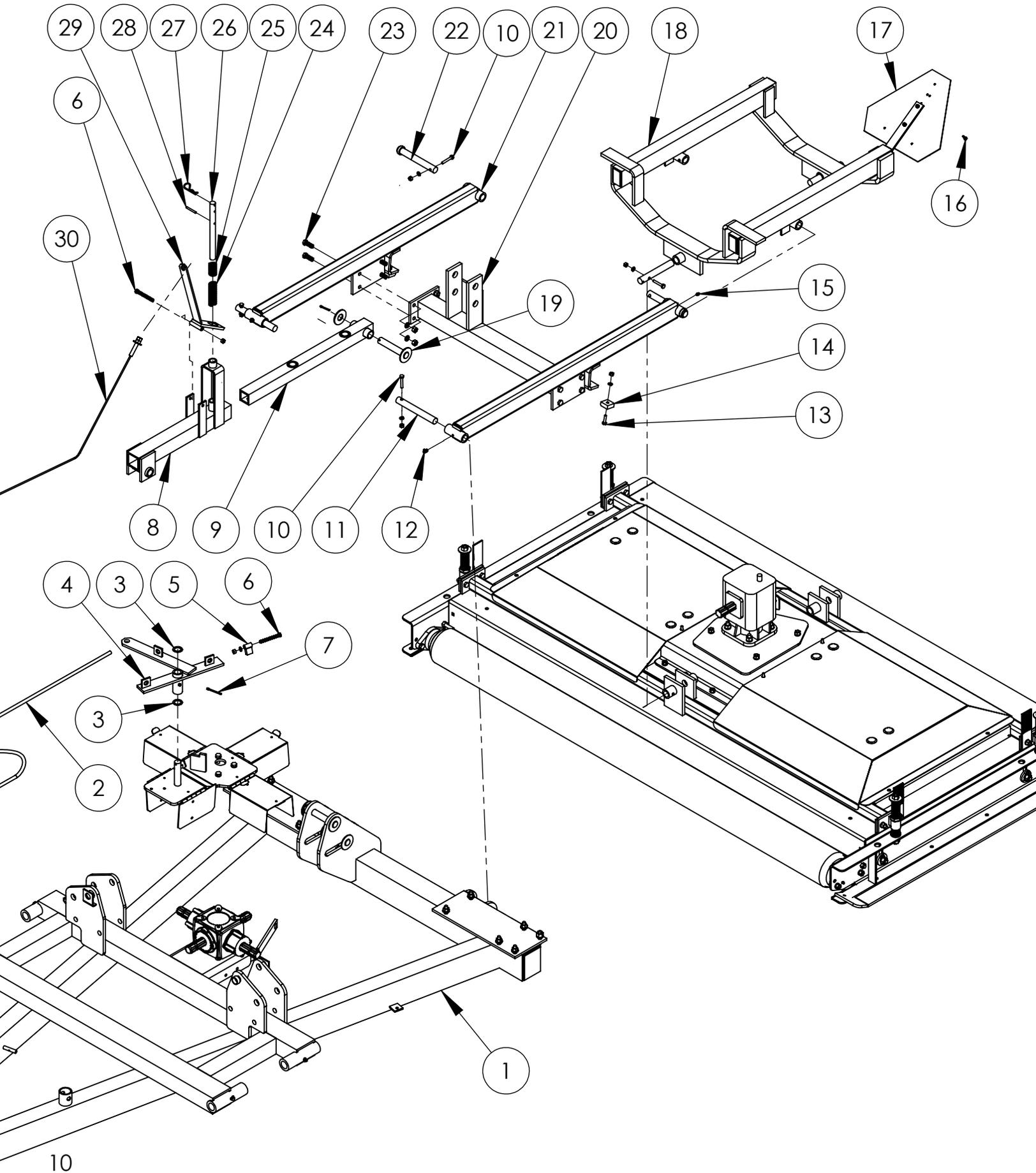
GEARBOX MOUNT ASSEMBLY			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	O.L.	3/16" X 1 1/2" COTTER PIN	1
2	521130	CASTLE NUT - M24	1
3	521129	WASHER - 25 X 44 X 4 (3 PCS)	1
4	526134	TDR-22 GEARBOX MOUNT WELDMENT	1
5	526132	TDR-22 SLIDE PLATE WELDMENT	1
6	O.L.	1/2" X 4" TAP BOLT WITH WASHER AND 2 NUTS	1
7	521432	DECK GEAR BOX	1
8	O.L.	3/8" x 2" NC GR5 BOLT, WITH LOCK AND NUT	4
9	O.L.	1/2" X 1 1/4" GR5 CARRIAGE BOLT, LOCK WASHER, AND NUT	4
10	521004	SHIM WASHER - 1.250" (9 PC KIT)	1
11	521390	KEY 1/4" x 1 5/16 (3 PER KIT)	1
12	212021	MAIN DRIVE PULLEY	1
-	-	NOTE: QUANTITIES ARE FOR ONE DECK GEARBOX ASSEMBLY ONLY	-
-	-	O.L. - OBTAIN LOCALLY	-

WING ASSEMBLY



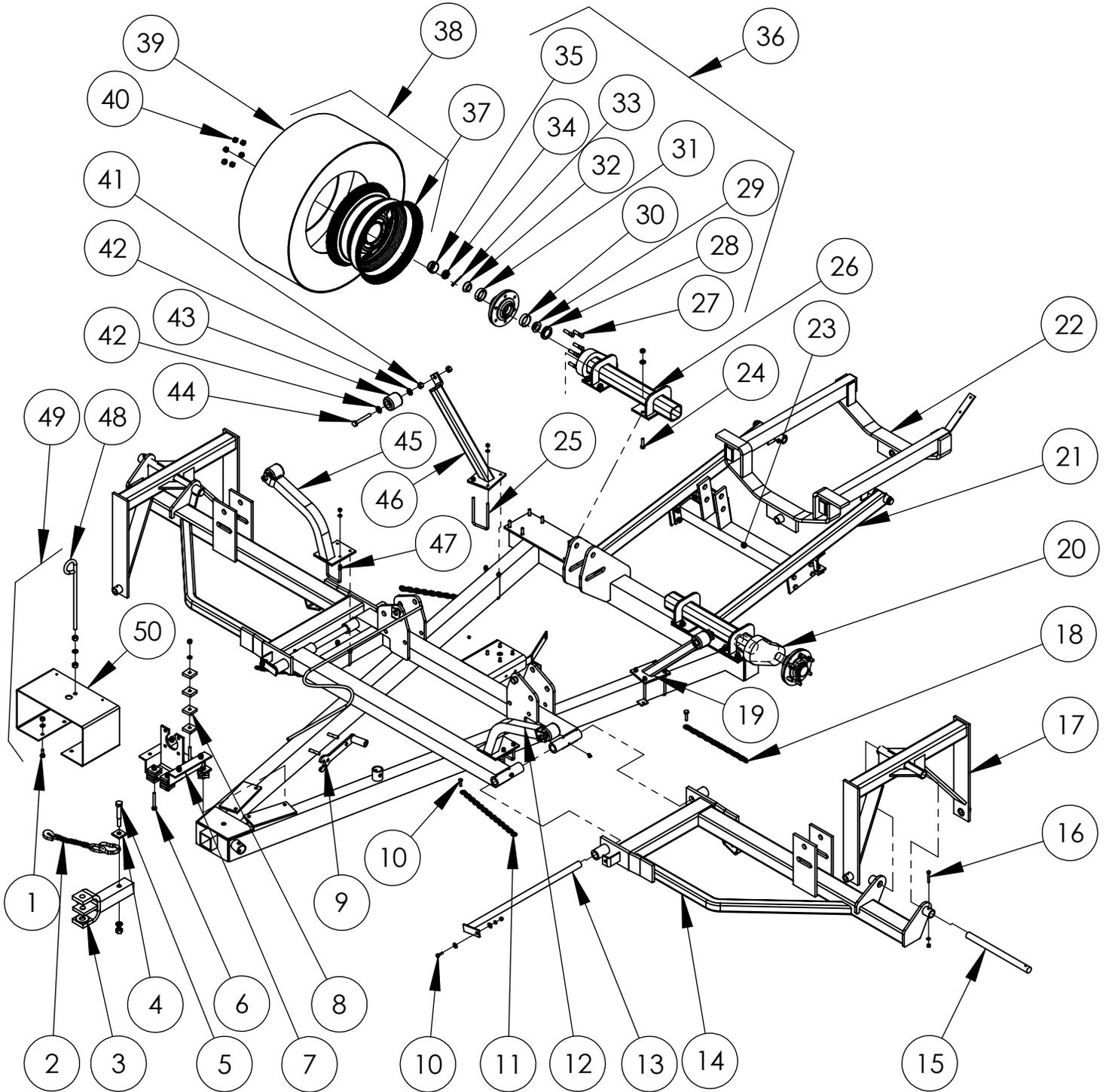
WING ASSEMBLY			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	526178	WING PIN TDR-22	2
2	O.L.	3/8" x 2" NC GR5 BOLT, WITH LOCK AND NUT	2
3	526174	WING L.H. TDR-22	1
-	526214	WING R.H. TDR-22	1
5	600512	BUMPER KIT (4 PER KIT)	1
6	O.L.	3/8" x 1 1/4" GR5 HEX BOLT, LOCKWASHER AND NUT	4
7	526449	DECK PIVOT PIN 7"	6
8	O.L.	3/8" x 2" GR5 HEX BOLT, WITH LOCKWASHER AND NUT	8
9	521338	WING SWIVEL PIN 1 6 3/4"	2
10	O.L.	3/8" x 2 1/4" GR5 HEX BOLT, WITH LOCKWASHER AN NUT	2
11	526212	WING DECK SWIVEL	2
12	526162	TDR-22 CYLINDER PIN	9
13	O.L.	3/16" x 1 1/2" COTTER PIN	14
14	526152	WING INSIDE LOCK TUBE	2
15	526150	WING OUTSIDE LOCK	2
16	214011	LOCK SPRING LONG PL.	3
17	214010	LOCK SPRING SHORT PL.	3
18	O.L.	SPRING PIN - 1/4" x 2"	3
19	526011	LOCK PIN 7/8" x 10 5/8"	3
20	O.L.	5/32" HAIR PIN	3
21	526172	LOCK RELEASE ARM	3
22	526320	WING LOCK CABLE 40 1/4"	2
23	526086	TDR-22 LOCK PIN 6 3/8"	3
24	O.L.	1" FLAT WASHER	14
25	O.L.	3/8" x 3 1/2" NC GR5 BOLT, WITH LOCK NUT	4
-	-	NOTE: QUANTITIES ARE FOR ONE COMPLETE MOWER	-
-	-	O.L. - OBTAIN LOCALLY	-

REAR LIFT ASSEMBLY



REAR LIFT ASSEMBLY			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY
1	526120	TDR-22 MAIN FRAME	1
2	526474	PULL ROPE- 13 1/2 FT	1
3	521320	SHIM KIT	2
4	526234	LOCK RELEASE SWIVEL	1
5	526210	LOCK DOG	1
6	O.L.	3/8" x 3 1/2" GR5 HEX BOLT WITH LOCK NUT	4
7	O.L.	3/16" x 1 1/2" COTTER PIN	14
8	526242	REAR LOCK OUTER TUBE	1
9	526250	REAR LOCK TUBE	1
10	O.L.	3/8" x 2" GR5 HEX BOLT, WITH LOCKWASHER AND NUT	8
11	526445	PULL TUBE FRAME PIN	2
12	302402	90 DEGREE GREASE FITTING	6
13	O.L.	3/8" x 1 1/4" GR5 HEX BOLT WITH LOCKWASHER AND NUT	6
14	600512	BUMPER KIT (4 PER KIT)	1
15	O.L.	GREASE FITTING 1/4 - 28, STR	7
16	O.L.	1/4" x 3/4" GR5 HEX BOLT WITH LOCK WASHER AND NUT	2
17	521353	S.M.V SIGN	1
18	526160	TDR-22 REAR DECK SWIVEL	1
19	526162	TDR-22 CYLINDER PIN	9
20	526164	REAR LIFT LINK ARM	1
21	526166	REAR DECK LIFT ARM	2
22	526254	REAR SWIVEL PIN	2
23	O.L.	1/2" x 1 1/2" GR5 HEX BOLT WITH LOCKWASHER AND NUT	32
24	214011	LOCK SPRING LONG PL.	3
25	214010	LOCK SPRING SHORT PL.	3
26	526011	LOCK PIN 7/8" x 10 5/8"	3
27	O.L.	5/32" HAIR PIN	3
28	O.L.	SPRING PIN - 1/4" x 2"	3
29	526172	LOCK RELEASE ARM	3
30	526322	REAR LOCK CABLE 60 3/4"	1
-	-	NOTE: QUANTITIES ARE FOR ONE COMPLETE MOWER	-
-	-	O.L. - OBTAIN LOCALLY	-

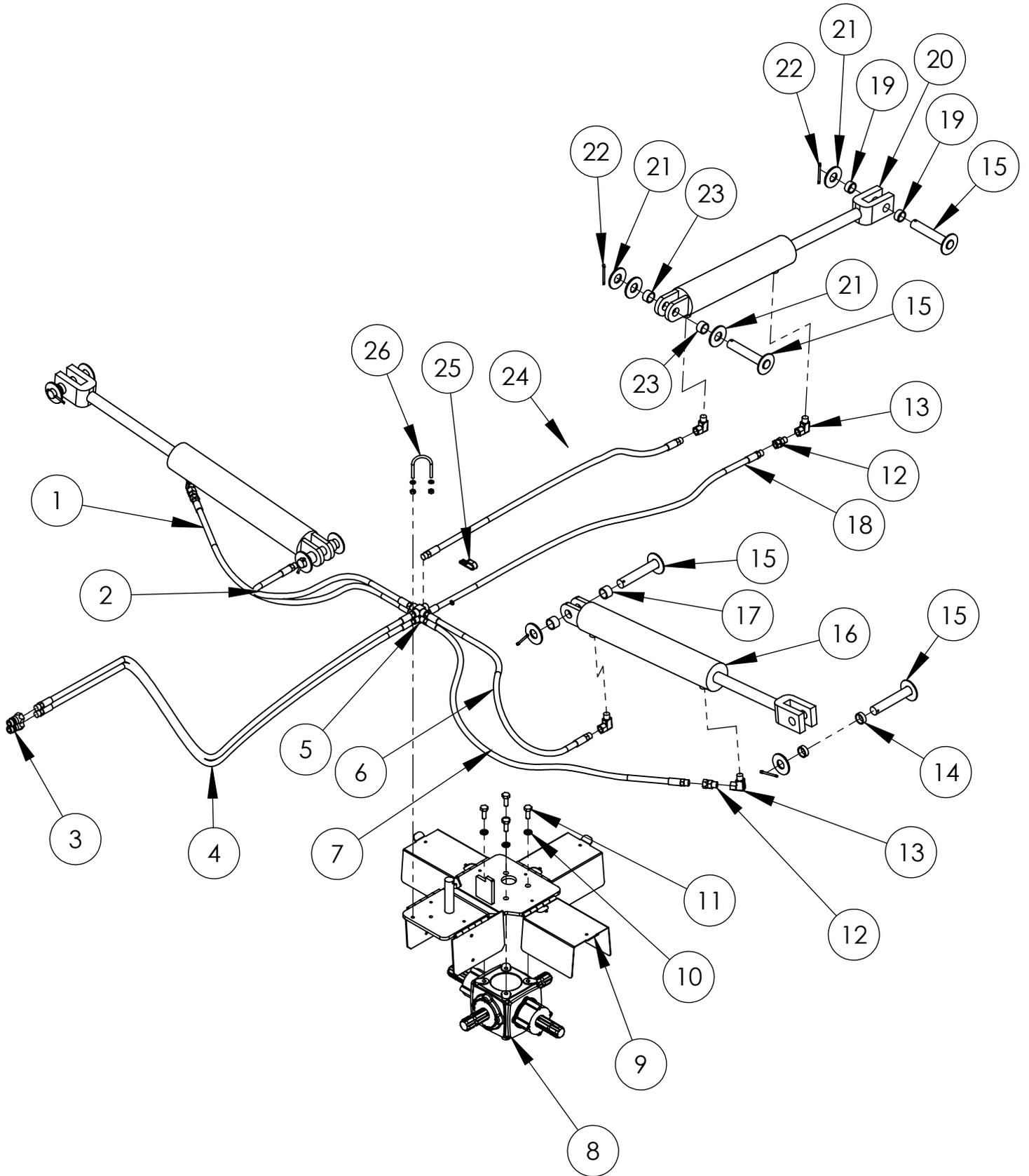
MAIN FRAME



MAIN FRAME COMPONENTS

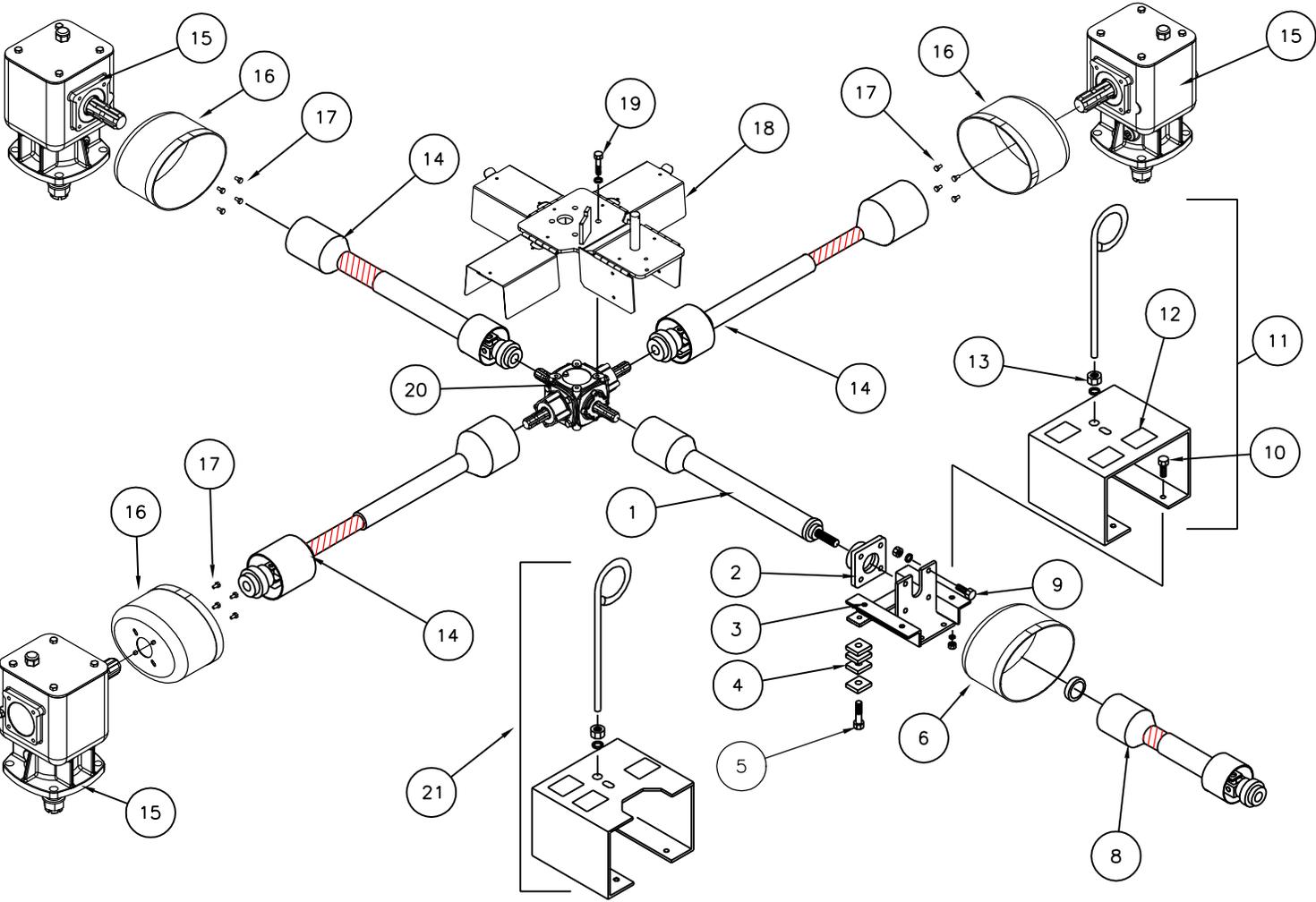
ITEM NO.	PART NUMBER	DESCRIPTION	SERIAL NUMBER	QTY
1	O.L.	1/2" x 1 1/4" HEX BOLT, LOCKWASHER AND NUT		4
2	521048	SAFETY CHAIN		1
3	521047	4 POSITION HITCH TD92		1
4	521857	SAFETY CHAIN FLAT WASHER		1
5	O.L.	3/4" x 5" HEX BOLT, LOCKWASHER AND NUT		1
6	O.L.	1/2" x 3 1/2" TAP BOLT LOCKWASHER AND NUT		5
7	526222	FRONT PTO MOUNT TDR-22		1
8	522414	PTO BRACKET SPACER KIT (4 PER KIT)		4
9	526094	TDR HEIGHT ADJ WRENCH		1
10	O.L.	3/8" x 1 1/4" HEX BOLT, 2 FLAT WASHERS, LOCKWASHER AND NUT		7
11	526280	FRONT STANDOFF CHAIN TDR-22		2
12	526220	DECK STANDOFF FRONT LEFT		1
13	526178	WING PIN TDR-22		2
14	526174	WING L.H. TDR-22 (SHOWN)		1
15	521338	WING SWIVEL PIN 1 6 3/4"		2
16	O.L.	3/8" x 2 1/4" GR5 HEX BOLT, LOCK AND NUT		2
17	526212	WING DECK SWIVEL		2
18	526282	REAR STANDOFF CHAIN TDR-22		2
19	526228	DECK STANDOFF REAR LEFT		1
20	526030	L.H. SUSPENSION AXLE		1
21	526166	REAR DECK LIFT ARM		2
22	526160	TDR-22 REAR DECK SWIVEL		1
23	526164	REAR LIFT LINK ARM		1
24	O.L.	1/2" x 1 3/4" GR8 NF HEX BOLT, LOCK AND NUT		13
25	526190	TDR-22 REAR U-BOLT PLATED		4
26	526028	R.H. SUSPENSION AXLE		1
27	230112	WHEEL STUD KIT (6PCS)		2
28	230119	GREASE SEAL - TRANSPORT		2
29	230120	INSIDE BEARING - TRANSPORT		2
30	230121	INNER RACE TDR-22		2
31	230122	OUTER RACE TDR-22		2
32	230123	OUTSIDE BEARING - TRANSPORT		2
33	O.L.	COTTER PIN - 3/16" x 2"		2
34	521747	HEX NUT - CASTELATED (2 PCS)		1
35	230125	DUST CAP		2
36	230126	TRANSPORT HUB COMPLETE		2
37	526200	16 x 10 TRANSPORT WHEEL		2
38	230054	TDR-22 TRANS WHEEL ASSEMBLY		2
39	526057	TRANSPORT TIRE ONLY		2
40	526379	TDR-22 WHEEL NUT (6 PC KIT)		2
41	O.L.	5/8" GR5 HEX NUT		11
42	526385	STANDOFF ROLLER WASHER (8 PER KIT)		2
43	526039	DECK STANDOFF ROLLER		4
44	O.L.	5/8" x 4" GR5 HEX BOLT		3
45	526238	DECK STANDOFF FRONT RIGHT		1
46	526226	DECK STANDOFF REAR RIGHT		1
47	526192	TDR-22 FRONT STANDOFF U-BOLT		4
48	522413	HOSE GUIDE - C/W HARDWARE		1
49	522408	HOSE SUPPORT & SHIELD COMPLETE		1
50	522308	HOSE SUPPORT SHIELD		1
-	-	NOTE: QUANTITIES ARE FOR COMPLETE MOWER		-
-	-	O.L - OBTAIN LOCALLY		-

HYDRAULICS



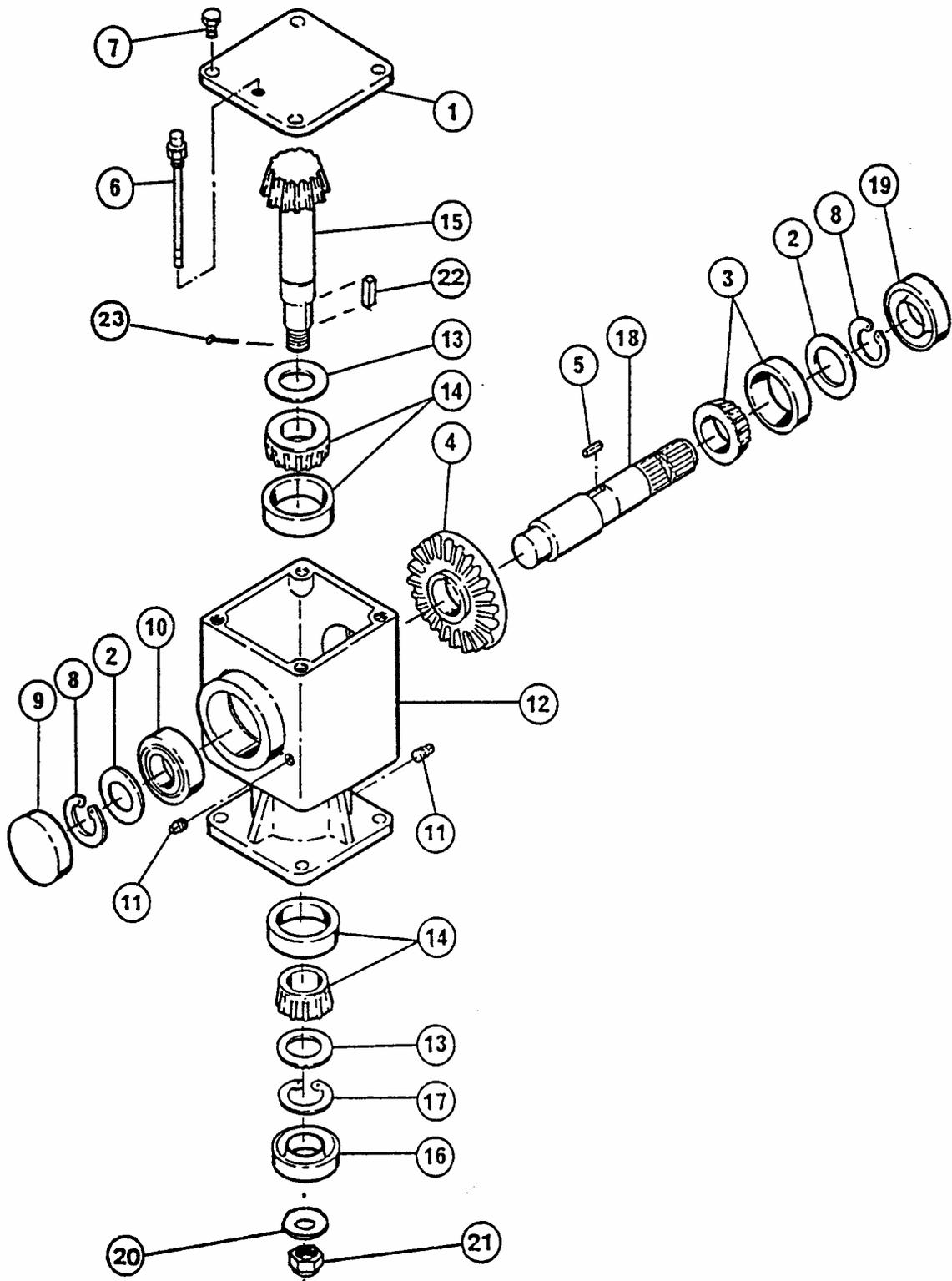
HYDRAULICS ASSEMBLY			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	521425	HYDRAULIC HOSE 40"	1
2	521769	HYDRAULIC HOSE 31"	1
3	222001	HYDRAULIC FITTING	2
4	521334	HYDRAULIC HOSE 122"	2
5	521070	HYDRAULIC CROSS	2
6	521426	HYDRAULIC HOSE 34.5"	1
7	521415	HYDRAULIC HOSE 43"	1
8	521497	GEARBOX - 4 SHAFT	1
9	526102	TDR-22 4-WAY SHIELD WELD	1
10	O.L.	1/2" LOCKWASHER	25
11	521764	M12 x 30 GR 8.8 HEX BOLT, LOCK (8 PC KIT)	1
12	222019	STRAIGHT ADPT W/ RESTRICTOR	3
13	222017	90 DEGREE ELBOW	6
14	526079	WING CYLINDER ROD SPACER	4
15	526162	TDR-22 CYLINDER PIN	9
16	522005	3" x 16" HYDRAULIC CYLINDER (WINGS)	2
	521843	SEAL KIT FOR 3" CYLINDER	3
17	526077	WING CYLINDER BUTT END SPACER	4
18	521424	HYDRAULIC HOSE 64"	1
19	526099	REAR CYL SPACER ROD END	5
20	522007	3" x 12" HYDRAULIC CYLINDER	1
	521843	SEAL KIT FOR 3" CYLINDER	3
21	O.L.	1" FLAT WASHER	14
22	O.L.	3/16" x 1 1/2" COTTER PIN	14
23	526115	REAR CYL SPACER BUTT END	2
24	521427	HYDRAULIC HOSE 52"	1
25	229008	HOSE CLAMP 5/8"	1
26	304202	5/16" U BOLT	1
-	-	QUANTITIES ARE FOR ONE COMPLETE MOWER	
-	-	O.L. - OBTAIN LOCALLY	

DRIVELINE COMPONENTS



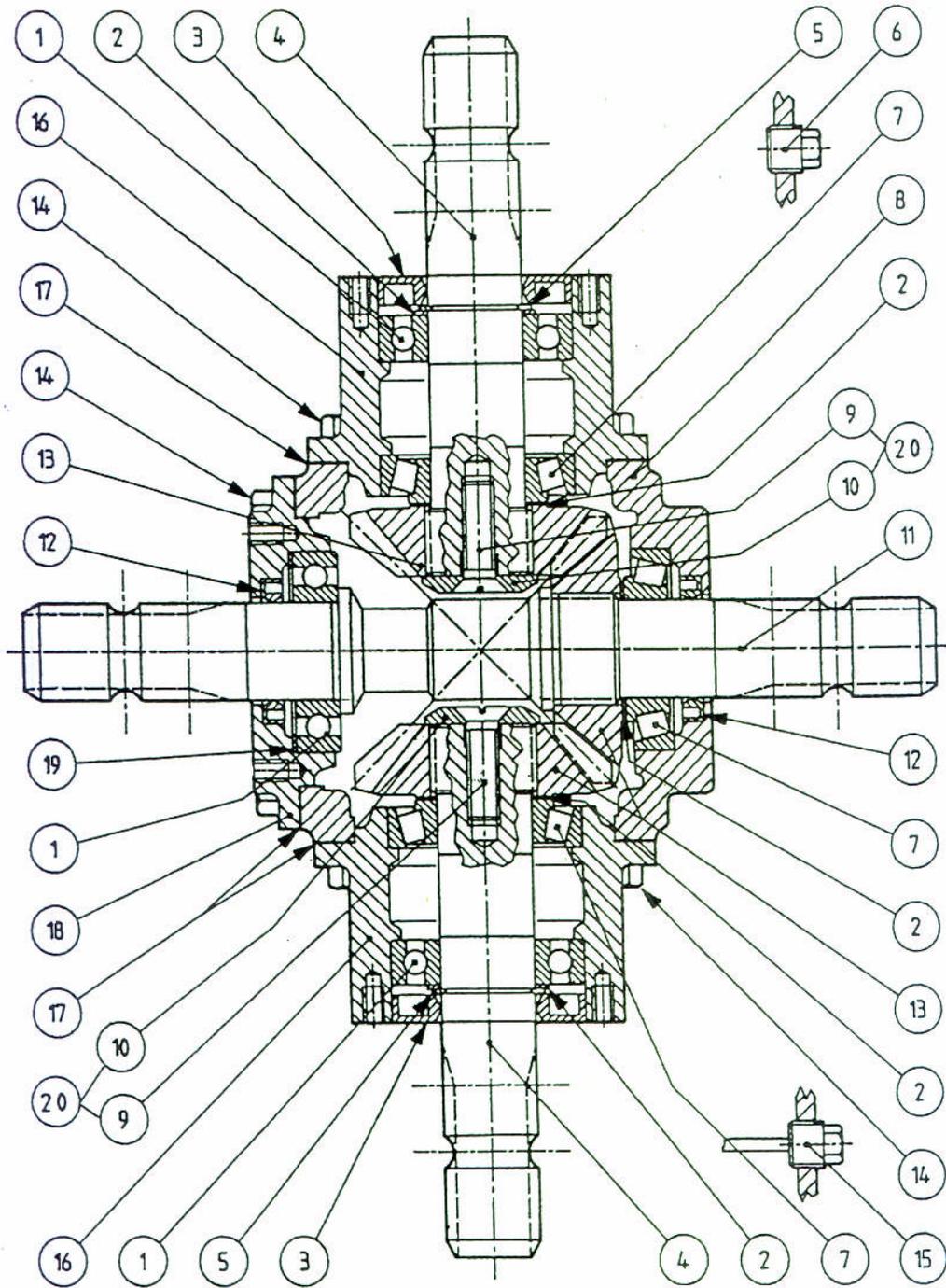
DRIVE LINE COMPONENTS				
ITEM	PART #	DESCRIPTION	QTY.	SERIAL NO.
1	210170	INTERMEDIATE PTO SHAFT	1	
2	521323	HOUSED FLANGE BEARING - 1 3/8"	1	
3	522402	PTO MOUNTING BRACKET	1	07910045 & ABOVE
	526222	PTO MOUNTING BRACKET	1	0691001-07910045
4	522414	1/2" SPACER BLOCKS (4PER KIT)	4	
5	O.L.	1/2" X 3 1/2" HEX BOLT	4	
6	210062	COUNTER CONE- DECK GEARBOX EUROPEAN MODELS ONLY	3	
7	521789	PTO SHAFT SPACER - 9/16"	1	07910045 & ABOVE
	526013	PTO SHAFT SPACER - 0.400"	1	0691001-07910045
8	210150	INPUT PTO SHAFT	1	
9	O.L.	1/2" X 1 3/4" BOLT, LOCK, NUT	4	
10	O.L.	1/2" X 1 1/4" BOLT, LOCK, NUT	4	
11	522408	HOSE SUPPORT AND SHIELD COMPLETE	1	
12	522002	DECAL KIT - COMPLETE MOWER	1	
13	522413	HOSE GUIDE - C/W HARDWARE	1	
14	210190	DECK PTO SHAFT	3	
15	521432	DECK GEAR BOX LF151A	3	
16	210061	COUNTER CONE- INPUT SHAFT EUROPEAN MODELS ONLY	1	
17	O.L.	HEX BOLT M8 X 1.5 X 14MM	12	
18	526102	GEAR BOX COVER	1	
19	521764	M12 X 30 8.8 BOLT, LOCK (8 PC/ KIT)	1	
20	521497	4-WAY GEAR BOX	1	
21	526440	HOSE SUPPORT AND SHIELD C.E. ONLY EUROPEAN MODELS ONLY	1	
		QUANTITIES ARE FOR ONE COMPLETE MOWER		
		O.L. - OBTAIN LOCALLY		

DECK GEARBOX



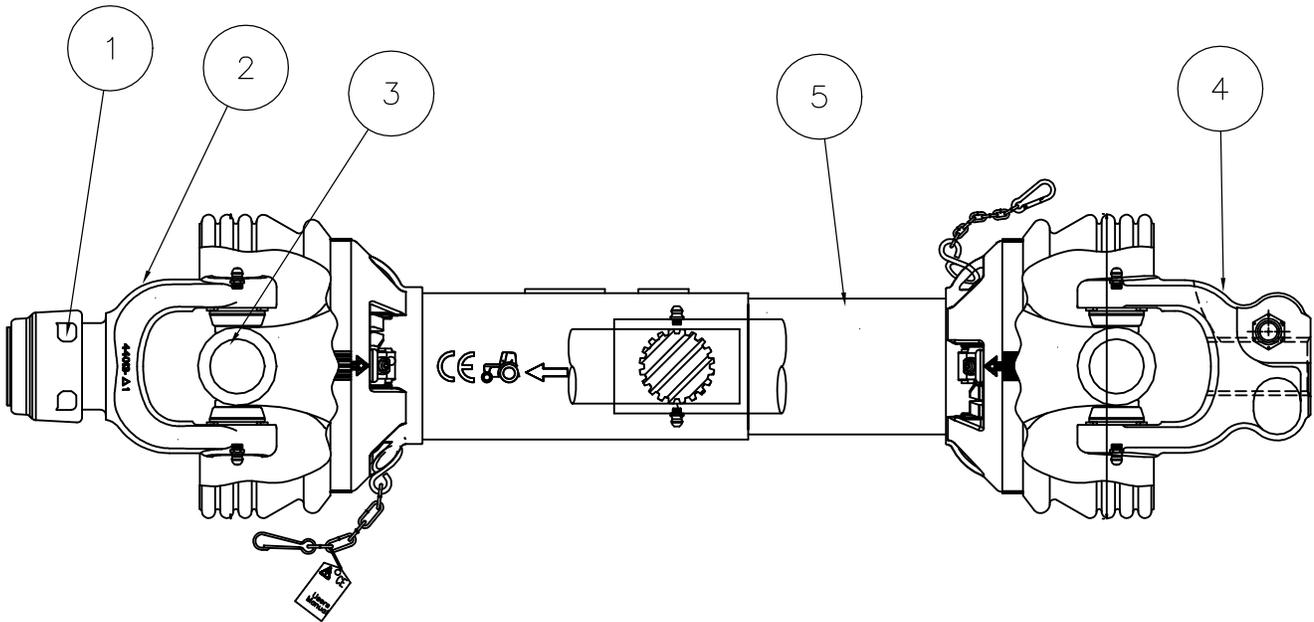
DECK GEARBOX ASSEMBLY			
ITEM	PART #	DESCRIPTION	QTY.
1	521420	COVER PLATE	1
2	521491	SHIM KIT 71.7	2
3	521362	BEARING - 30207	1
4	521434	GEAR - Z34	1
5	521444	KEY - 12 X 8 X 30	1
6	521433	OIL LEVEL DIPSTICK	1
7	521399	BOLT - M8 X 14 - 8.8	4
8	521126	SNAP RING - 72 UNI7437 (3PC/KIT)	2
9	521443	CAP - 72 X 10	1
10	521116	BEARING - 6207	1
11	521482	3/8 PIPE PLUG	1
12	521428	CASING	1
13	521436	SHIM KIT - 51.5	2
14	521442	BEARING - 30208	2
15	521435	PINION SHAFT	1
16	521440	OIL SEAL - 40 X 80 X 10	1
17	521439	SNAP RING - 40 UNI7436 (3PC/KIT)	1
18	521441	SHAFT - 1 3/8" - 6 SPLINE	1
19	521127	OIL SEAL - 35 X 72 X 10/7	1
20	521129	WASHER - 25 X 44 X 4 (3PC/KIT)	1
21	521130	CASTALATED NUT M24 X 2	1
22	521390	KEY - 1/4" X 1/4" X 1 5/16"	1
23	521122	COTTER PIN - B5 X 50 (3PC/KIT)	1
	521432	COMPLETE GEAR BOX LF151A	1
-	-	QUANTITIES ARE FOR ONE COMPLETE MOWER	-
-	-	O.I. - OBTAIN LOCALLY	-

4 – WAY GEARBOX ASSEMBLY



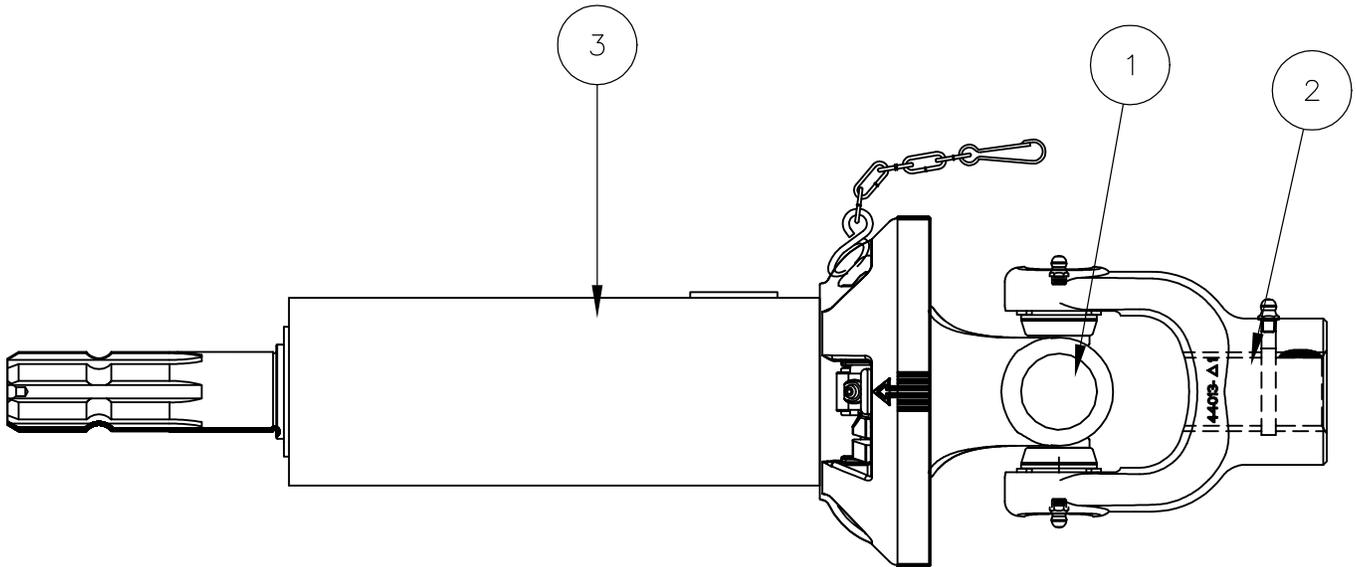
4-WAY GEARBOX ASSEMBLY			
ITEM	PART NO.	DESCRIPTION	QTY
1	521116	BEARING 6207	3
2	521794	SHIM KIT - 48.0	6
3	521127	OIL SEAL - 35 X 72 X 10/7	2
4	521481	STUB SHAFT - 1 3/8" SPLINE	2
5	521137	SNAP RING - 35 UNI 7435	4
6	521482	3/8" PIPE PLUG	2
7	521362	BEARING - 30207	3
8	521483	HOUSING	1
9	ITEM 20	BOLT - M12 X 40 - 10.9	2
10	ITEM 20	WASHER BLANK	2
11	521486	THRU SHAFT 1 3/8" X 1 3/8"	1
12	521120	OIL SEAL - 35 X 52 X 7	2
13	521487	GEAR Z18 M5	3
14	521488	BOLT - M12 X 25 - 8.8 KIT (6 PCS)	2
15	521489	OIL LEVEL DIPSTICK	1
16	521796	EXTENSION HOUSING	2
17	521793	GASKET	3
18	521797	COVER	1
19	521491	WASHER - SHIM (60 X 72) (3 PCS)	1
20	522426	BOLT KIT - ITEMS 9 (2) & 10 (2)	1
*****	521497	COMPLETE GEAR BOX	1
-	-	QUANTITIES ARE FOR ONE COMPLETE MOWER	-
-	-	O.L. - OBTAIN LOCALLY	-

INPUT PTO SHAFT



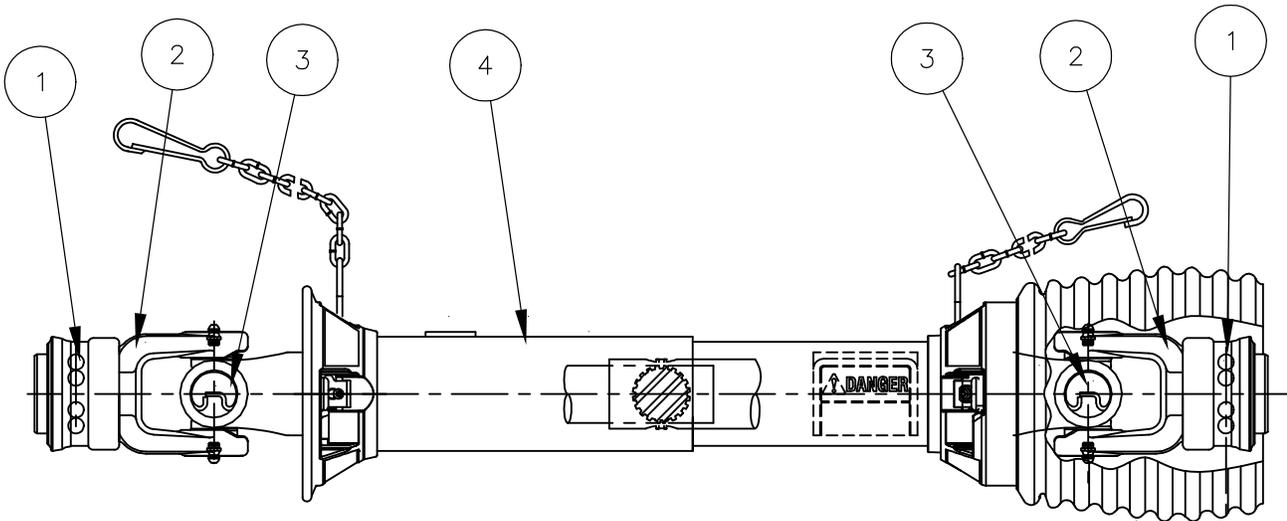
	PART NUMBER	DESCRIPTION	QTY.
1	210179	SSL/AUTO-LOK REPAIR KIT	1
2	210175	SAFETY SLIDE LOCK YOKE ASM.	1
3	210171	CROSS AND BEARING KIT	2
4	210174	CLAMP YOKE	1
5	210178	COMPLETE GUARD SET 44 SERIES	1
	210150	COMPLETE INPUT SHAFT	1
		QUANTITY IS FOR ONE COMPLETE SHAFT	

INTERMEDIATE SHAFT



ITEM	PART NUMBER	DESCRIPTION	QTY
1	210171	CROSS & BEARING KIT	1
2	210172	SLIDE YOKE	1
3	210173	GUARD	1
-	210170	COMPLETE PTO SHAFT	1
		QUANTITY IS FOR ONE COMPLETE PTO SHAFT	

DECK PTO SHAFT



ITEM	PART NUMBER	DESCRIPTION	QTY.
1	210196	SPRING-LOK REPAIR KIT	2
2	210192	SPRING-LOK YOKE ASSEMBLY	2
3	210191	CROSS & BEARING KIT	2
4	210195	COMPLETE GUARD SET	1
-	210190	COMPLETE PTO SHAFT	
		QUANTITY IS FOR ONE COMPLETE PTO SHAFT	