

DR[®] 72" 3-POINT HITCH FINISH MOWER

SAFETY & OPERATING INSTRUCTIONS



Serial No. _____

Order No. _____

DR Power Equipment
Toll-free phone: 1-800-DR-OWNER (376-9637)
Fax: 1-802-877-1213
Website: www.DRpower.com

WARNING

Read and understand this manual and all instructions before operating the DR 72" 3-POINT HITCH FINISH MOWER.

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Conventions used in this manual

! DANGER

This indicates a hazardous situation, which, if not followed, will result in death or serious injury.

! WARNING

This indicates a hazardous situation, which, if not avoided, could result in death or serious injury.

! CAUTION

This indicates a hazardous situation, which, if not avoided, could result in minor or moderate injury.

NOTICE

This information is important in the proper use of your machine. Failure to follow this instruction could result in damage to your machine or property.

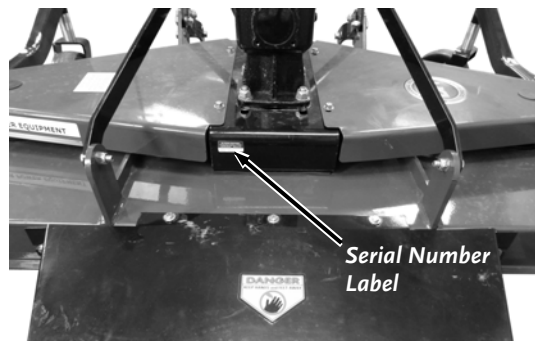


Figure 1

Serial Number and Order Number

A Serial Number is used to identify your machine and is located on the Serial Number Label on your machine (**Figure 1**). An Order Number is used to check and maintain your order history and is located on the upper left portion of your packing slip. For your convenience and ready reference, enter the Serial Number and Order Number in the space provided on the front cover of this manual.

Additional Information and Potential Changes

DR Power Equipment reserves the right to discontinue, change, and improve its products at any time without notice or obligation to the purchaser. The descriptions and specifications contained in this manual were in effect at printing. Equipment described within this manual may be optional. Some illustrations may not be applicable to your machine.

Chapter 1: General Safety Rules

WARNING

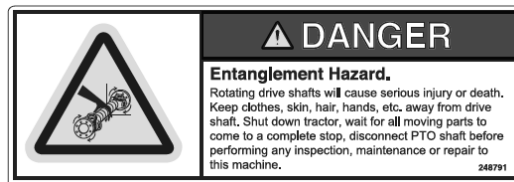
Read this Safety & Operating Instructions manual before you use the DR 72" 3-POINT HITCH FINISH MOWER. Become familiar with the operation and service recommendations to ensure the best performance from your machine. If you have any questions or need assistance, please contact us at www.DRpower.com or call toll-free 1-800-DR-OWNER (376-9637) and one of our Technical Support Representatives will be happy to help you.

Labels

Your DR 72" 3-POINT HITCH FINISH MOWER carries prominent labels as reminders for its proper and safe use. Shown below are copies of the Safety and Information labels that appear on the equipment. Take a moment to study them and make a note of their location on your DR 72" 3-POINT HITCH FINISH MOWER as you set up and before you operate the unit. Replace damaged or missing safety and information labels immediately.



#13649



#24879



#40915



#40914



#40920

Tractor Safety Information

DANGER

YOUR DR 72" 3-POINT HITCH FINISH MOWER is driven by a PTO shaft that transfers power from your Tractor. The Tractor and PTO shaft are extremely dangerous and can cause serious injury or death if not used properly. Read and understand all of the Warnings and operating instructions that came with your Tractor and the PTO shaft to protect yourself from severe injury or death.

Safety for Children and Pets

WARNING

Tragic accidents can occur if the operator is not alert to the presence of children and pets. Children are often attracted to the machine and the mowing activity. *Never* assume that children will remain where you last saw them. Always follow these precautions:

- Keep children and pets out of the working area and under the watchful care of a responsible adult.
- Be alert and turn the machine off if children or pets enter the work area.
- Never allow children to operate the DR 72" 3-POINT HITCH FINISH MOWER.
- Use extra care when approaching blind corners, shrubs, trees, or other objects that may obscure your vision.

Protecting yourself and those around you

WARNING

This is a high-powered machine, with moving parts operating with high energy at high speeds. You must operate the machine safely. Unsafe operation can create a number of hazards for you, as well as anyone else in the nearby area. Always take the following precautions when using this machine:

- Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people, their property, and themselves.
- Always wear protective goggles or safety glasses with side shields while mowing to protect your eyes from possible thrown debris.
- Avoid wearing loose clothing or jewelry, which can catch on the machine's moving parts.
- We recommend wearing gloves while using this machine. Be sure your gloves fit properly and do not have loose cuffs or drawstrings.
- Wear shoes with non-slip treads when using your DR 72" 3-POINT HITCH FINISH MOWER. If you have safety shoes, we recommend wearing them. Do not use the machine while barefoot or wearing sandals with exposed toes or heels.
- Wear long pants while operating the DR 72" 3-POINT HITCH FINISH MOWER.
- Use ear protectors or ear plugs rated for at least 20 dba to protect your hearing.
- Keep bystanders at least 100 feet away from your work area at all times. The cutting blades on the DR 72" 3-POINT HITCH FINISH MOWER can throw sticks, small stones, gravel, and bits of debris over long distances at great velocity. Do not travel over loose materials such as gravel or mulch with the blades spinning. Doing so could cause personal injury or property damage from thrown objects. Disengage the PTO Shaft to stop the spinning blades and shut off the Tractor engine when another person or pet approaches.
- Never tamper with safety devices. Check their proper operation regularly.
- Never operate the machine when under the influence of alcohol, drugs, or medication.

Operating the Finish Mower Safely

WARNING

This is a high-powered machine, with moving parts operating with high energy at high speeds. You must operate the machine safely. Unsafe operation can create a number of hazards for you, as well as anyone else in the nearby area. Always take the following precautions when using this machine:

- Know how to stop the mower quickly by disengaging the PTO Shaft and shutting down the tractor.
- Never allow people who are unfamiliar with these instructions to use the DR 72" 3-POINT HITCH FINISH MOWER. Allow only responsible individuals who are familiar with these rules of safe operation to use your machine.
- Do not exceed 5 mph when transporting to prevent damage to the machine.
- Operating your Finish Mower with the deck misaligned with the ground can result in poor cut quality and scalping during cutting, wear on your equipment, and damage to the blades.
- Never place your hands, feet, or any part of your body on or under the mower deck in the path of the spinning blade or near the discharge opening while the tractor is running. Keep area of discharge clear of people, animals, buildings, glass, or anything else that will obstruct clear discharge, cause injury, or damage.
- Your DR 72" 3-POINT HITCH FINISH MOWER is a powerful tool, not a plaything. Exercise extreme caution at all times. The design of your machine is for mowing grass and small weeds as specified in this manual. Do not use it for any other purpose.
- Whenever you leave the operating position to make adjustments, maintain blades, or if you have to remove grass or debris from the underside of the deck, always disengage the PTO, shut down the Tractor Engine, remove the Key, wait for all moving parts to come to a complete stop, disconnect the PTO shaft from the Tractor, then wait five minutes before performing any maintenance procedure or inspection on the Mower.
- This machine is designed to operate at 540 rpm PTO Shaft speed only! Never operate at a faster speed; doing so can cause serious injury to the operator or bystanders and could cause damage to the machine that is not covered under warranty.

Operating the Mower Safely (continued)

WARNING

- Do not transport people, animals, or objects on the Mower.
 - Be mindful of roll over hazards, changes in terrain, slopes, or wet conditions. Use care when backing up.
 - Stop the blades when crossing gravel drives, walks, or roads.
 - Never, under any conditions, remove, bend, cut, fit, weld, or otherwise alter standard parts on the DR 72" 3-POINT HITCH FINISH MOWER. This includes all shields and guards. Modifications to your machine could cause personal injuries and property damage and will void your warranty.
 - If the blades strike a foreign object or if your machine should start making an unusual noise or vibration, disengage PTO, shut down the Tractor Engine, remove the Key, wait for all moving parts to come to a complete stop, disconnect the PTO shaft from the Tractor, then wait five minutes before inspection. Vibration is generally a warning of trouble. Clean, repair, and/or replace damaged parts.
 - While using the DR 72" 3-POINT HITCH FINISH MOWER, do not hurry or take things for granted. When in doubt about the equipment or your surroundings, stop the machine and take the time to look things over. Make sure that you have 100% control of the mower at all times.
 - Watch for traffic when mowing near roadways.
 - Use the machine only in daylight.
 - Be cautious when using your DR 72" 3-POINT HITCH FINISH MOWER around fencing, rocks, wires, ropes, and hoses. It is possible that these and other debris can hit or become wound around the Cutting Blades of the machine, potentially damaging the machine or injuring you.
 - Do not operate the DR 72" 3-POINT HITCH FINISH MOWER on slopes greater than is recommended in your Tractor manual.
 - Keep all nuts and bolts tight and keep the equipment in good operating condition.
-

A Note to All Users

No list of warnings and cautions can be all-inclusive. If situations occur that are not covered by this manual, the operator must apply common sense and operate this DR 72" 3-POINT HITCH FINISH MOWER in a safe manner. Contact us at www.DRpower.com or call 1-800-DR-OWNER (376-9637) for assistance.

Chapter 2: Setting Up The DR 72" 3-POINT HITCH FINISH MOWER

It may be helpful to familiarize yourself with the controls and features of your DR 72" 3-POINT HITCH FINISH MOWER as shown in **Figure 2** before beginning these procedures. If you have any questions at all, please feel free to contact us at www.DRpower.com.

DR 72" 3-POINT HITCH FINISH MOWER Controls and Features

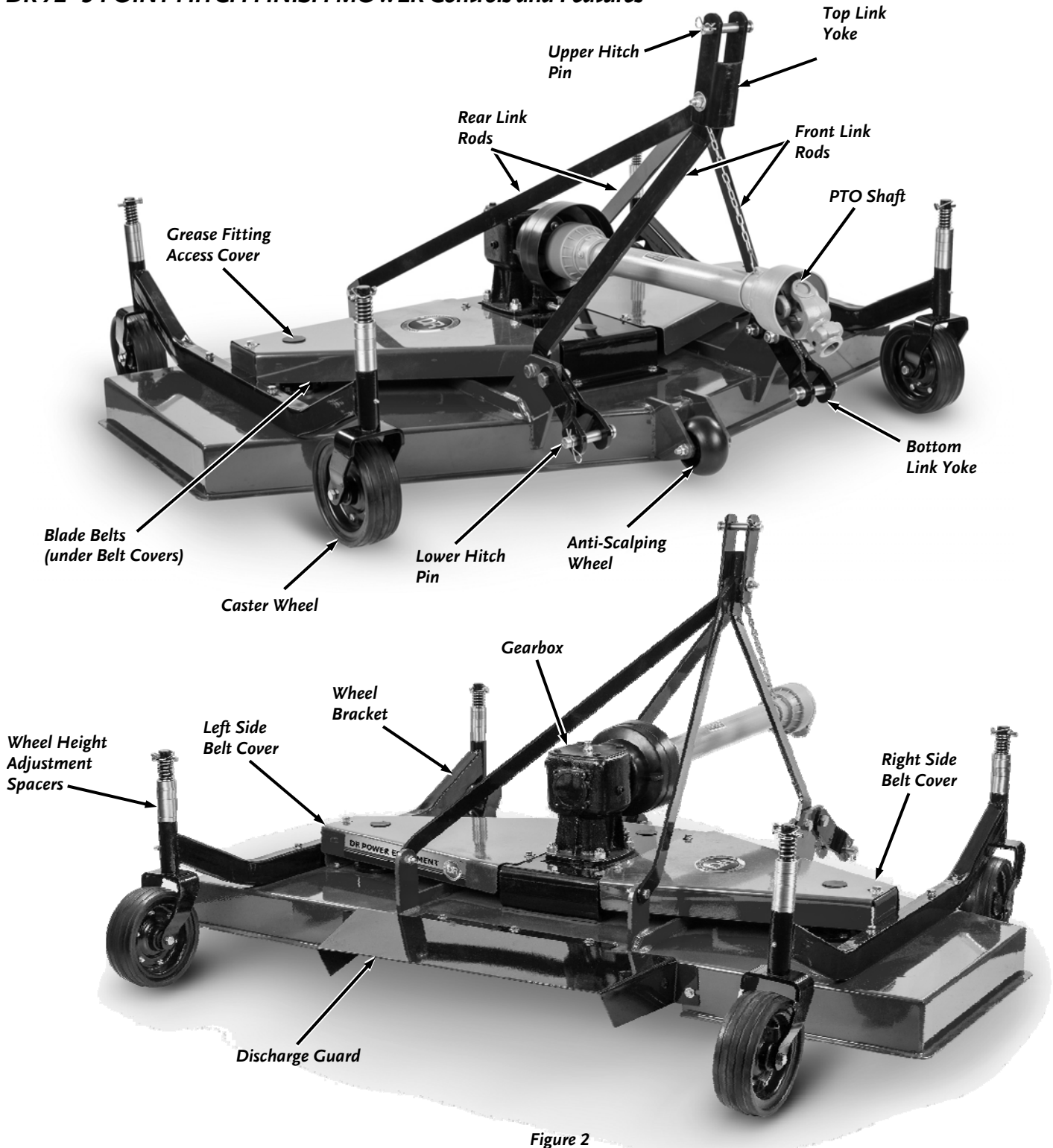


Figure 2

Specifications

Tractor Requirements	3-Point Hitch, Category 1, 20 to 35 HP Recommended
PTO Speed	540 RPM
PTO Shaft Interface	6 Spline Quick Release Tractor Yoke
Lift Arm Spread	Min of 23" to Accommodate Mower Frame
Mower Drive	Tractor PTO
Number of Blades	3
Cutting Speed	Adjust speed as needed depending on grass height and density
Max Towing Speed	5 mph
Cutting Width	72"
Cutting Height (adjustable)	1.5" to 5" (Wheel Spacers)
Max Grass Height	12"
Blade Length	24"
Number of Blades	3
Blade Tip Speed	17,318 ft/min
Anti-Scalp	1 Front Center Anti-Scalp Wheel
Discharge Type	Rear Discharge
Gearbox Ratio	1:2.83
Gearbox Oil	I.E. S.A.E. 80w/90 or S.A.E. 85w/140 Multi-purpose gear oil
Caster Wheels (Qty 4)	8" x 3" Solid Rubber with Grease Zerk
Deck Material	9 Gauge Powder-Coated Steel
Machine Dimensions	73" L x 53" W x 25.5" H
Machine Weight	452 Lbs

Assembling the DR 72" 3-POINT HITCH FINISH MOWER

Parts Supplied - (Figure 3 and list below):

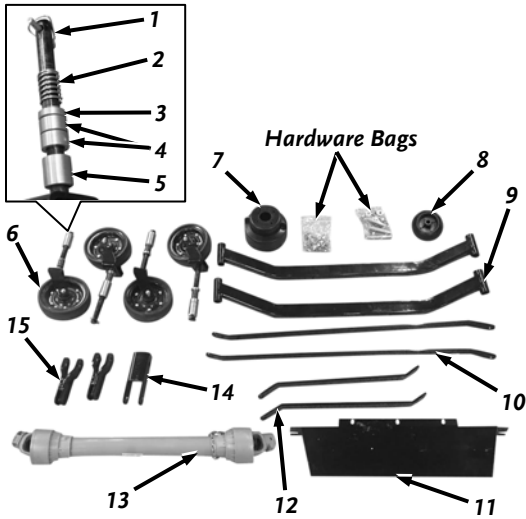


Figure 3

Item #	Part #	Description	Qty
1	40820	Pin, Lock	4
2	40826	Spring, lock	4
3	40824	Spacer, Short, Adjusting	4
4	40825	Spacer, Medium, Adjusting	8
5	40819	Spacer, Long, Adjusting	4
6	40818	Wheel Assembly	4
7	40860	Plastic cover	1
8	15708	Wheel, Anti-Scalp	1
9	40823	Bracket, Wheel	2
10	40839	Rod, Rear link	2
11	40846	Discharge Guard, Rear	1
12	40830	Rod, Front Link	2
13	39076	PTO Shaft Assembly	1
14	40835	Yoke, Top Link	1
15	40855	Yoke, Bottom Link	2

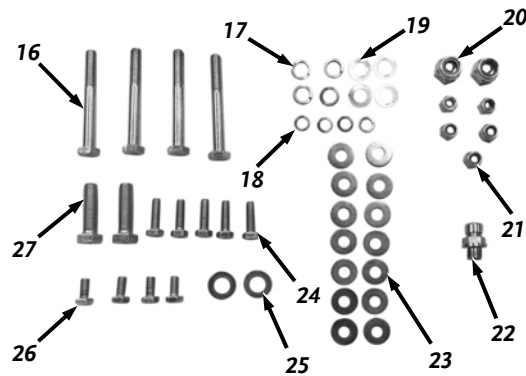


Figure 4: Hardware Bag #1

Hardware Supplied in Hardware Bag #1 - (Figure 4 and list below):

Item #	Part #	Description	Qty
16	40822	Bolt, M10X80	4
17	40864	Washers, Lock, M10	4
18	39440	Washers, Lock, M8	4
19	40821	Washer, Plain, M10	4
20	40853	Locknut, M18	2
21	40849	Locknuts M8	5
22	39441	Plug, Gearbox	1
23	40848	Washer, Plain, M8	14
24	40843	Bolt, M8X20	5
25	40840	Washer, Plain, M12	2
26	40858	Bolt, M8X16	4
27	40841	Bolt, M12X30	2

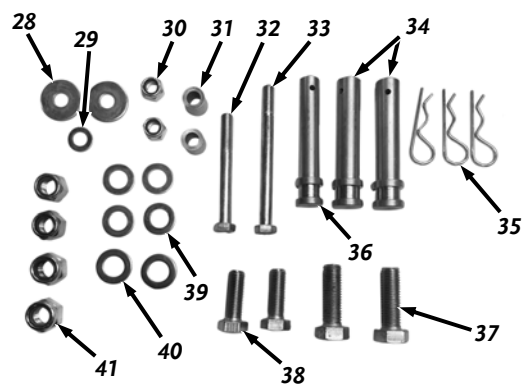


Figure 5: Hardware Bag #2

Hardware Supplied in Hardware Bag #2 - (Figure 5 and list below):

Item #	Part #	Description	Qty
28	40833	Washer, Plain, M12, Large OD	2
29	40840	Washer, Plain, M12	1
30	40829	Locknut, M16	2
31	40834	Spacer	2
32	40832	Bolt, M12X90	1
33	39441	Bolt, M12X125	1
34	40852	Suspension pin	2
35	40851	Pin, Retaining	3
36	40831	Pin, Suspension	1
37	40857	Bolts M18X55	2
38	40827	Bolt, M16X40	2
39	40828	Washer, Plain, M16	4
40	40856	Washer, Plain, M18	2
41	40837	Locknut, M12	4

Compare the contents of the Product Package with the "Parts Supplied" list above. If you have any questions please contact us at www.DRpower.com or call 1-800-DR-OWNER (376-9637) for assistance.

Tool and Supplies Needed:

- 16mm Wrench
- 18mm Wrench
- 19mm Wrench
- 27mm Wrench
- Ratchet with Extension and 13mm Socket
- Two 13mm Wrenches
- General Purpose Grease

1. Position the two Wheel Brackets onto the Deck and secure with four M10 X 80 Bolts (#40822), M10 Lock Washers and M10 Plain Washers using a 16mm Wrench (**Figure 6**).

2. Loosely install the two Rear Link Rods on the **outside** of the Rear Deck Tabs with a M12X30 Bolt (#40841), M12 Plain Washer and M12 Locknut using a 18mm Wrench on the Bolt and a 19mm Wrench on the Locknut (**Figure 7**).

Note: Use the inner Deck Tab holes for installing the Front Link Rods in the next step.

3. Loosely install the two Front Link Rods on the **inside** of the front Deck Tabs with two M16X40 Bolts (#40827), M16 Plain Washers, and M16 Locknuts using two 27mm Wrenches (**Figure 8**).

4. Position the Top Link Yoke over the ends of the link arms with Spacers (#40834) between the Suspension Linkage and Rear Link Rods (**Figure 9**).

5. Secure the Top Link Yoke to the Link Rods with a M12X90 Bolt (#40832), M12 Large OD Plain Washers and M12 Locknut using a 18mm Wrench on the Bolt and a 19mm Wrench on the Locknut.

6. Tighten the hardware you installed in steps 2 and 3.

7. Install the two Bottom Link Yokes to the Front Deck Tabs with two M18X55 Bolts (#40857), M18 Plain Washers and M18 Locknuts using two 27mm Wrenches (**Figure 10**).

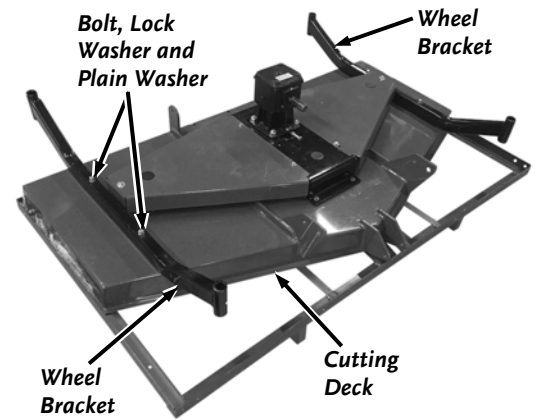


Figure 6

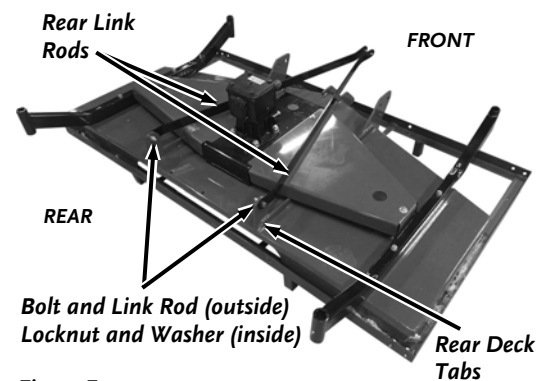


Figure 7

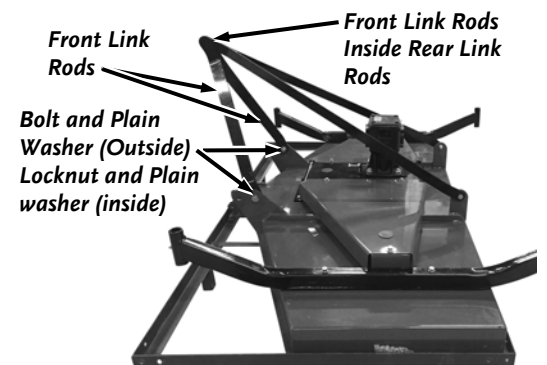


Figure 8

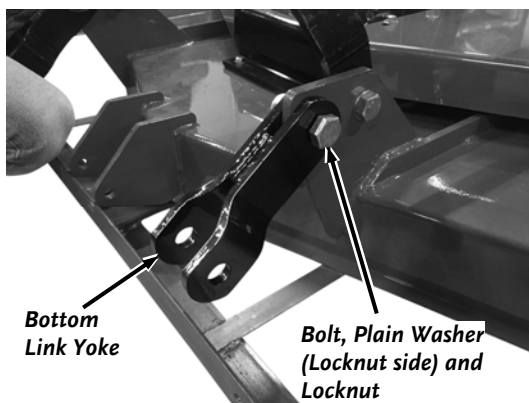


Figure 10

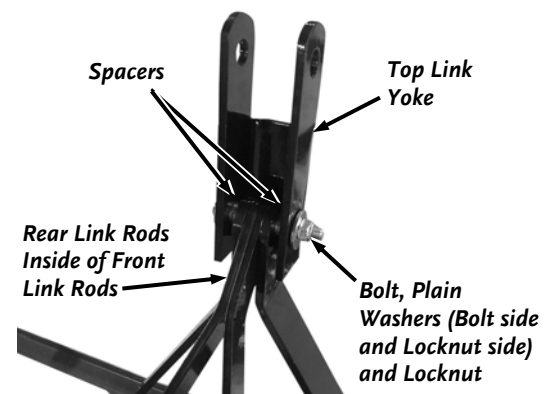


Figure 9

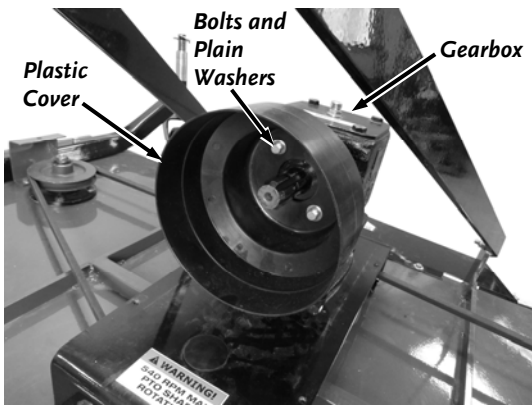


Figure 11

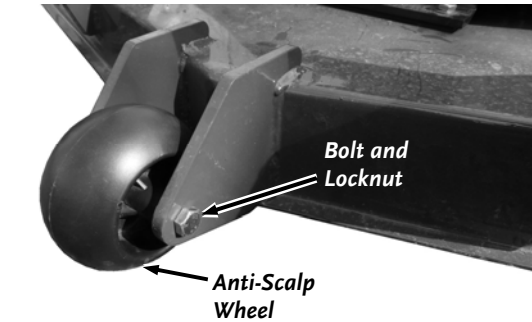


Figure 12

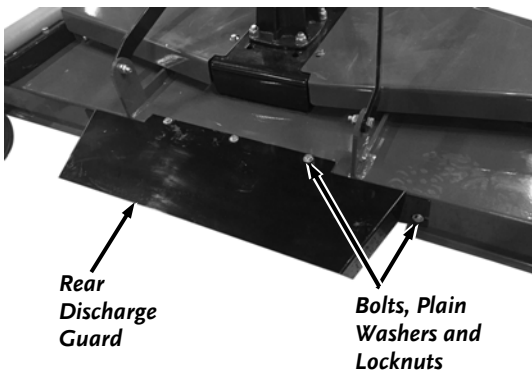


Figure 13

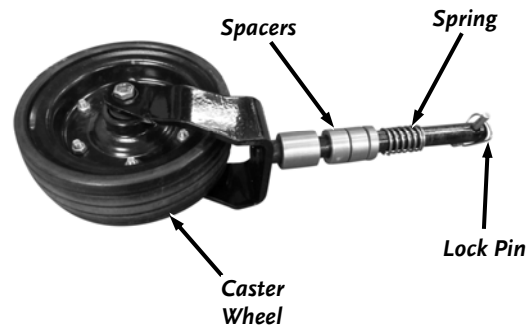


Figure 14

8. Install the Plastic Cover onto the Gearbox with four M8X16 Bolts (#40858) M8 Lock Washers and M8 Plain Washers using a Ratchet with Extension and 13mm Socket (**Figure 11**).

Note: For the following steps you will need to use a Jack to lift the deck. You could also attach the Tractor 3-Point Hitch to the Mower and lift it off the ground (see "Attaching the Finish Mower to the Tractor" on page 12).

9. Position the Anti-Scalp Wheel and secure with the M12X125 Bolt (#39441), M12 Plain Washer and M12 Locknut using a 18mm Wrench on the Bolt and a 19mm Wrench on the Locknut (**Figure 12**).

10. Install the Rear Discharge Guard to the Deck with five M8X20 Bolts (#40843), M8 Plain Washers (Bolt side and Locknut side), and M8 Locknuts using two 13mm Wrenches (**Figure 13**).

11. Remove the Lock Pin from one of the Caster Wheel Assemblies and remove the Spring and Spacers (**Figure 14**).

12. Grease the surface where the Caster Bracket is welded to the Shaft with General Purpose Grease (**Figure 15**).

13. Install the Caster Shaft into the Wheel Bracket and install the Spacers and Spring (**Figure 16**). Secure with the Lock Pin.

14. Repeat steps 2 through 4 for the other three Caster assemblies.

Note: The Wheel height can be adjusted as needed. This procedure will be discussed in Chapter 3 "Operating the DR 72" 3-POINT HITCH FINISH MOWER"



Figure 15

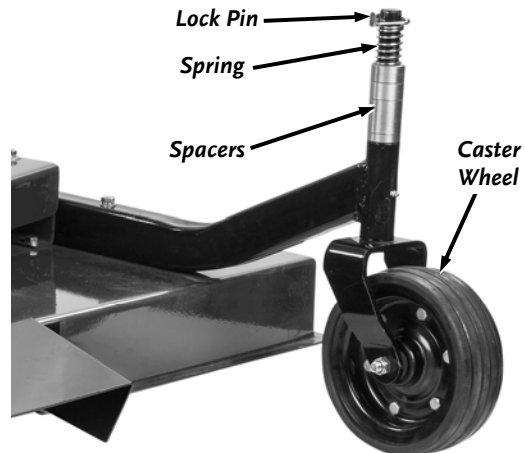


Figure 16

Greasing the Wheel Brackets

1. Wipe all dirt, etc., from the Wheel Support fitting with a clean cloth (**Figure 17**).
2. Apply quality general-purpose lithium grease with a hand-pumped grease gun to the Wheel Support Grease Fitting as needed.

Adding Oil to the Gearbox

Tool and Supplies Needed:

- 32 oz. S.A.E. 80W/90 or S.A.E. 85W/140 Multi-purpose Gear Oil
- Flat Head Screwdriver
- 8mm Allen Wrench
- 17mm Wrench
- Clean Rags

Note: The Gearbox can hold 946.4ml. (32oz) of S.A.E. 80w/90 or S.A.E. 85w/140 Multi-purpose gear oil. Do not add it all at once.

1. Remove the plastic Plug that is in the top of the Gearbox using a Flat Head Screwdriver (**Figure 18**).
2. Remove the Overflow Plug from the side of the Gearbox using a 8mm Allen Wrench.
3. Add oil to the top of the Gearbox until it starts draining from the overflow hole. Allow a few seconds for the oil to settle to get an accurate reading.
4. Reinstall the Overflow Plug into the side hole.
5. Install the Gearbox Plug into the top of the Gearbox using a 17mm Wrench (**Figure 19**).

Greasing the Blade Bearings

Tools and Supplies Needed:

- Grease Gun (general purpose grease)
- Rags

1. Remove the three Rubber Grommets from the Belt Covers and Gearbox Seat (**Figure 20**).
2. Wipe any grease or dirt from all Grease Fittings with a rag.
3. Grease the Finish Mower at all three Blade Spindle Grease Fittings with 3 to 4 pumps of the Grease Gun.
4. Wipe off any excess grease with a rag.
5. Replace the Rubber Grommets when finished.

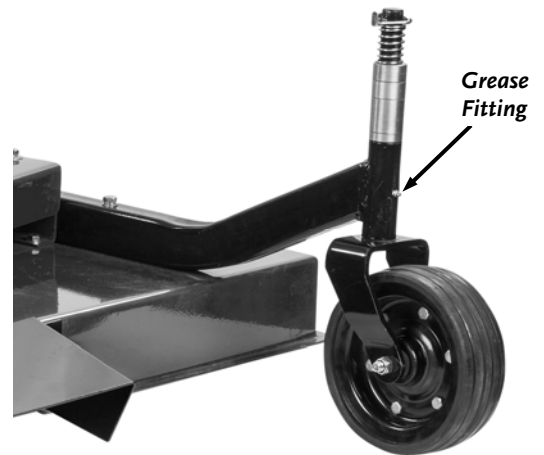


Figure 17

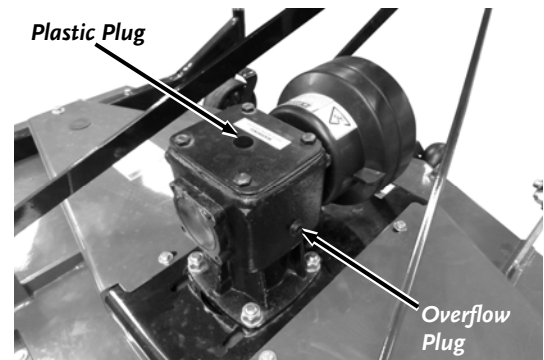


Figure 18

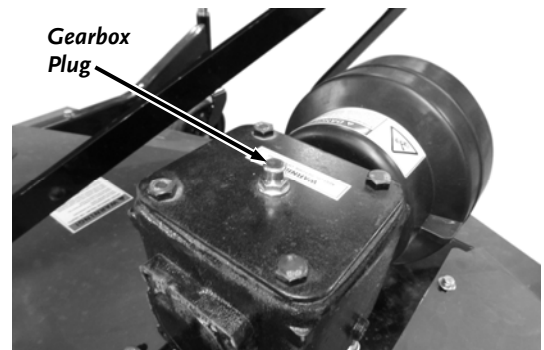


Figure 19

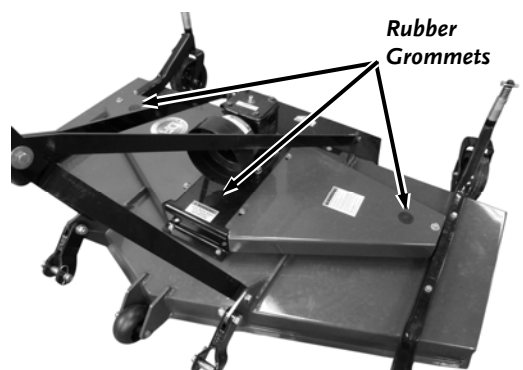


Figure 20

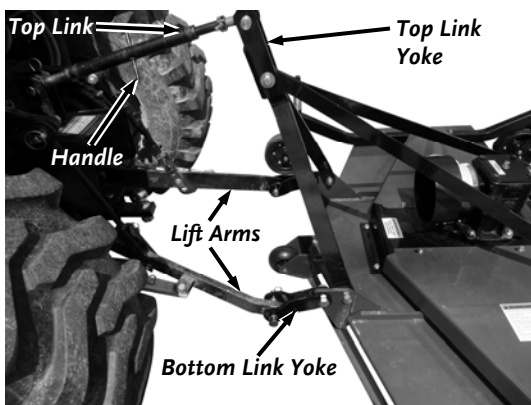


Figure 21:

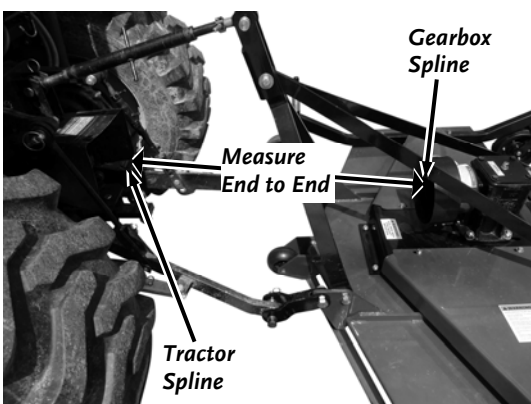


Figure 22: Low Position

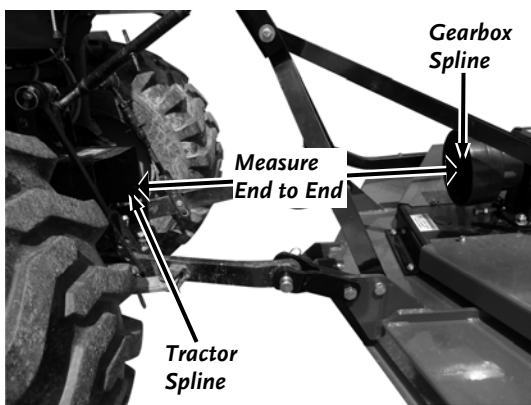


Figure 23

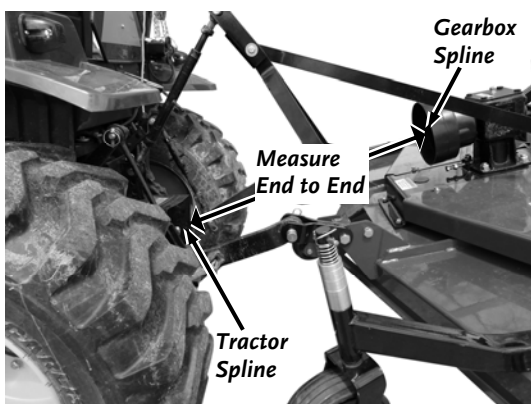


Figure 24

Attaching the Finish Mower to the Tractor

The Finish Mower must be attached to the 3-Point Hitch of your Tractor before continuing with the final setup of the machine.

1. Position the Lift Arms of the Tractor to the Bottom Link Yokes of the Finish Mower (**Figure 21**).
2. Secure the Lift arms to the Bottom Link Yokes using the Suspension Pins (#40852) and Retaining Pins (#40851).
3. Adjust the Top Link of the Tractor to the Top Link Yoke by turning the Handle to lengthen or shorten the Link as needed.
4. Secure the Top Link of the Tractor to the Top Link Yoke using the Upper Suspension Pin (#40831) and Retaining Pin (#40851).
5. Refer to your Tractor Owner's Manual to adjust your Lift Arm Side Supports to prevent the Mower from swaying side to side.

Calculating length of PTO Shaft needed

The PTO Shaft provided with your Mower is 39" overall compressed length and will work "as is" for most applications. Before you install the PTO Shaft it is good practice to run through the following dimension checks to calculate optimum PTO Shaft length to determine if modifications are needed.

! WARNING

The minimum recommended overlap of the tubes at the center of the PTO Shaft should be 6". Using a PTO Shaft with less than 6" overlap may fail and cause machine damage or personal injury.

Without the PTO Shaft installed, use the table below to record the dimensions as outlined in the following steps.

Tools Needed:

- Measuring Tape

TRACTOR SPLINE SHAFT TO GEARBOX SHAFT MEASUREMENTS	
ON GROUND	_____ Inches
SHAFTS LEVEL	_____ Inches
FULLY RAISED	_____ Inches

1. Lower the Mower all the way to the ground in the operating position (**Figure 22**). Measure from the end of the Tractor Spline Shaft to the end of the Mower Gearbox Shaft and record this dimension in the "ON GROUND" row of the table above.
2. Raise the Mower up until the Tractor PTO Spline and Mower Gearbox Shaft are parallel with each other (**Figure 23**). Measure from the end of the Tractor Spline Shaft to the end of the Mower Gearbox Shaft and record this dimension in the "SHAFTS LEVEL" row of the table above.
3. Raise the Mower up as far as it will go (**Figure 24**). Measure from the end of the Tractor Spline Shaft to the end of the Mower Gearbox Shaft and record this dimension in the "FULLY RAISED" row of the table above.

Note: If your longest measurement exceeds 52-3/4" you will require a longer PTO Shaft. Do not proceed with installation until you have a longer PTO Shaft. If you have any questions, please visit us at www.DRpower.com or call 1-800-DR-OWNER (376-9637).

4. Take the shortest recorded measurement you wrote in the table and add 2".
5. Take that number and subtract it from 39" (overall compressed length of the supplied PTO Shaft).
6. This final number is the length that you will need to cut off of the PTO Shaft for it to fit properly to your Tractor.

EXAMPLE: Let's assume the shortest center-to-center measurement in the table is 35".

- $35" + 2" = 37"$ (step 4 above)
- $39" - 37" = 2"$ (step 5 above)
- You would be required to cut 2" off both halves of the PTO Shaft and 2" off the Guard.

Note: If you end up with 0" or a negative number, then no changes are needed until you reach a maximum long measurement of 52-3/4" as indicated above.

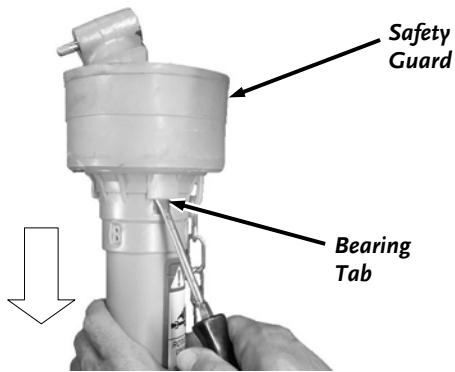


Figure 25

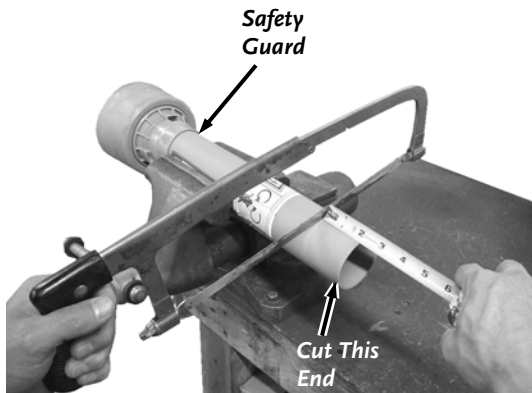


Figure 26

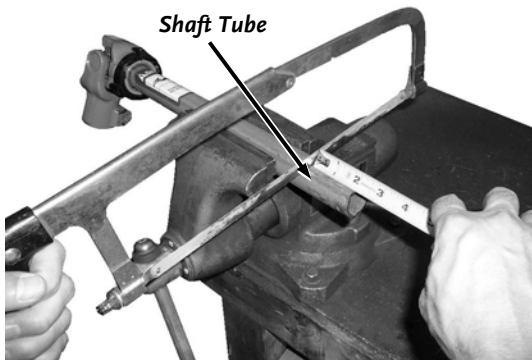


Figure 27

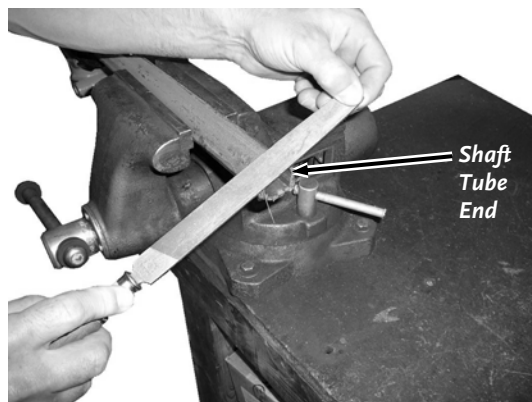


Figure 28

Modifying the PTO Shaft-if required

If you have determined in the previous steps that the PTO Shaft is too long for your set up, shorten the Shaft as follows:

Tools and Supplies Needed:

- Hacksaw
- Bench Vise
- Tape Measure
- File
- General purpose Lithium Grease

Note: Your actual PTO Shaft may look different than the one shown in these steps but the procedures are the same.

1. Separate the PTO Shaft Halves by pulling them apart.
2. Separate the Guards from the PTO Shaft Halves by inserting a flat tip screwdriver into the Bearing Tab Slots as you pull down on the Safety Guard to release the Safety Guard from the Shaft (**Figure 25**).
3. Measure and cut the ends of both Guards the required amount (**Figure 26**).

Note: If you put the Guards in a vise to hold them, be careful not to clamp it too tight because it could crack the plastic.

4. Measure and cut each Shaft Tubes to the required length using the hacksaw (**Figure 27**).
5. File or sand any burrs from the Shaft ends (**Figure 28**).
6. Grease both Shaft Tubes and under the Bearing Rings of each Shaft (**Figure 29**).

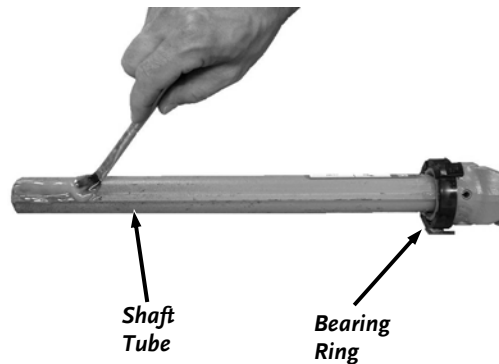


Figure 29

7. Insert the Shaft Halves into the Guards making sure that the Bearing Ring Slot lines up with the Tab on the inside of the Guards for proper installation (**Figure 30**).

8. Slide the two PTO Shaft Halves together.

Note: When inserting one half of the PTO Shaft to the other you must line up the splines correctly (two pointed splines and one flat spline).

Continue to the following section to attach the PTO Shaft to the Tractor and Mower.

Attaching the PTO Shaft to the Tractor and Mower

Note: The PTO Driveshaft provided with your new machine is sized to fit a standard category 1 PTO (1-3/8" DIA. x 6" Spline).

The PTO Spline Shaft on the tractor that is to use this machine must rotate clockwise when viewing the PTO from the rear of the tractor. If the PTO rotates counterclockwise, you must have your tractor modified by installing a gearbox to reverse the direction of rotation.

The length of the PTO Driveshaft that is included with your new machine will work in most instances but may need to be modified. See "Calculating Length of PTO Shaft needed" for checking the PTO Shaft length desired and then "Modifying the PTO Shaft if required" instructions if the PTO Shaft is too long.

1. Push in the Spring Pin at one end of the PTO Shaft and slide it onto the Tractor Spline (**Figure 31**). When the PTO Shaft is started on the Tractor Spline Shaft, release the Pin and continue to push the PTO Shaft until the Spring Pin locks into the Groove of the Tractor Spline.
2. Push in the Spring Pin at the other end of the PTO Shaft and slide it onto the Mower Gearbox Spline. When the PTO Shaft is started on the Gearbox Spline Shaft, release the Pin and continue to push the PTO Shaft until the Spring Pin locks into the Groove of the Gearbox Spline.
3. Attach the PTO Shaft Safety Chains around a solid area of the 3-Point Link Rods with the Chain ends attached to both ends of the PTO Shaft Guard (**Figure 32**). Make sure the Chain has enough slack in the full range of the Tractor 3-Point Arm travel.

Greasing the Wheel Bracket

Tools needed:

- Flexible hose grease gun
 - Lithium grease
 - Clean cloth
4. Apply a quality general-purpose lithium grease with a hand-pumped grease gun to each of the Support Grease Fitting (**Figure 33**).

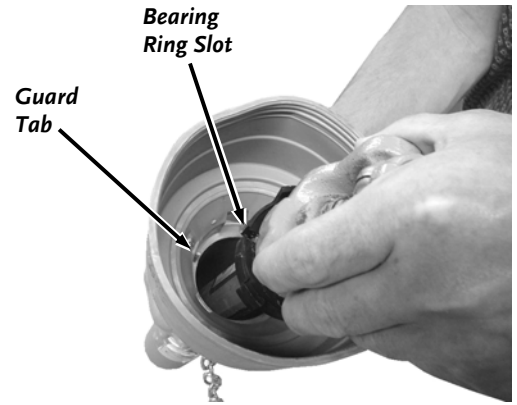


Figure 30

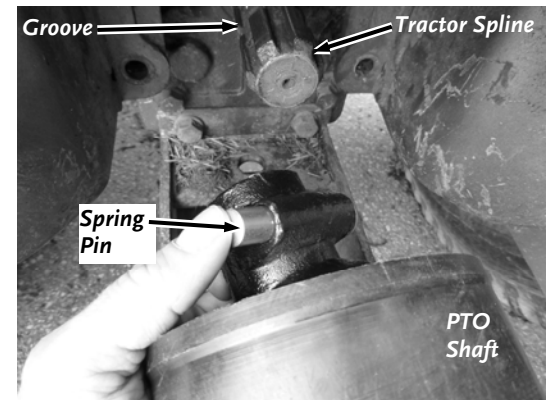


Figure 31

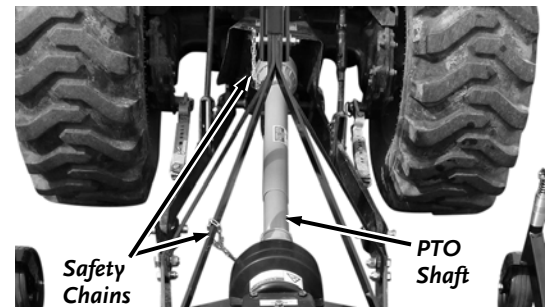


Figure 32

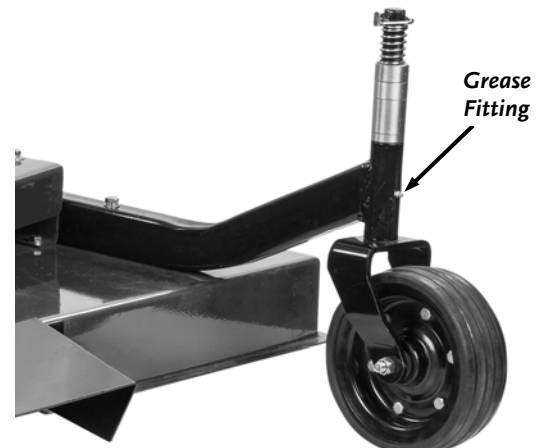


Figure 33

Chapter 3: Operating The DR 72" 3-POINT HITCH FINISH MOWER

⚠ WARNING

- This machine is designed to operate at 540 rpm PTO Shaft speed only! Never operate at a faster speed; doing so can cause serious injury to the operator or bystanders and could cause damage to the machine that is not covered under warranty.
- Read and understand your Tractor user's manual and all Tractor safety Warnings for operating your Tractor safely before operating this DR 72" 3-POINT HITCH FINISH MOWER.

Operation Notes

- See the Owner's Manual that came with your Tractor for all safety warnings and detailed information for operating your Tractor properly.
- Always operate the Tractor PTO at 540 RPM when Mowing.
- Always operate the machine (mowing) with the Lift Arm fully lowered in the float position so the Mower Wheels are on the ground.
- Always disengage the PTO, lock the Parking Brake and shut off the Tractor when leaving the Tractor Seat.
- Never transport the Mower while the PTO is turning.
- Remove any debris buildup from the machine before every use of the Mower.

Preparing the Mower for Mowing

The characteristics of cutting height and quality is controlled by the condition of the Cutting Blades and Wheel Spacer arrangement. It takes time and practice to learn what the best combinations of settings for different conditions are.

SETTING WHEEL HEIGHT

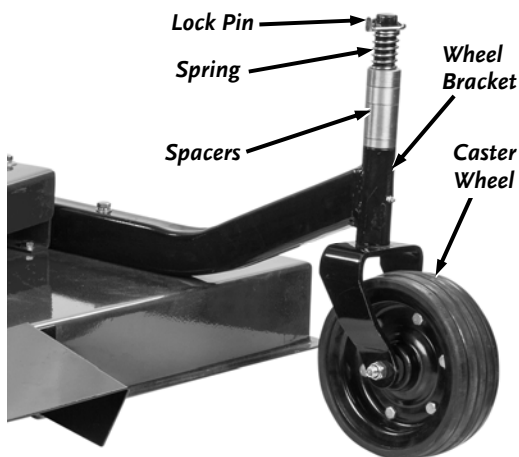


Figure 34

- The Cutting Height can be set at a range between 1-1/2" to 5". When all Spacers are on the top of the Wheel Bracket it produces a 1-1/2" cut. When all Spacers are on the bottom of the Wheel Bracket it produces a 5" cut. You can experiment with Spacers of different sizes located above and below the Wheel Bracket to achieve the desired height.
 - Always match the Spacer setup at all four Wheels for a consistent and even cut.
 - The Mower must be lifted off the ground or jacked up to adjust the Wheel Height Spacers.
 - Always mount the Spring on the top next to the Lock Pin.
1. Remove the Lock Pin and remove the Caster Wheel Assembly with Spacers (**Figure 34**).
 2. Arrange the Spacers as desired below or above the Wheel Bracket to set the cutting height.
 3. Reinstall the Spring and Lock Pin to secure the Spacers and Caster Wheel Assemblies.

Engaging the Mower Blades

1. Ensure that the Mower is lowered to the ground and all Guards are in place and properly secured before using.

Note: *The Tractor Lift Arms must be fully lowered to the float position when mowing.*

2. Set Tractor throttle at IDLE and engage the PTO.

3. Increase Tractor throttle to the rpm's required to obtain 540 PTO speed.

Note: *See your Tractor manual for detailed information on Tractor operation.*

Stopping the Blades from Spinning

1. Reduce Tractor throttle to IDLE.

2. Disengaging PTO to stop the Mower.

Preparing the Mower for Transport

WARNING

Always disengage the PTO Shaft before lifting the Mower off the ground or transporting the Mower to prevent injury or damage to the machine.

1. Lift the Mower off the ground with the Tractor 3-Point Hitch before transporting to prevent hitting any obstacles.

2. If your Tractor is equipped with a Lift Arm Lock, it should be used during transport.

Obstacles

Dealing with obstacles in the terrain is easy with your new DR 72" 3-POINT HITCH FINISH MOWER. The following section explains how to approach most common obstacles.

- Always check your work area before mowing and remove any debris that might tangle or damage the machine.
- If you do run into debris and the Mower becomes tangled, disengage PTO, shut down the Tractor Engine, remove the Key, wait for all moving parts to come to a complete stop, then wait five minutes for parts to cool before attempting to untangle the machine.

Heavy Growth

- Take your time in heavy growth.
- If the machine cannot do it all in one pass, overlap half of the cutting swath.
- Ease the DR 72" 3-POINT HITCH FINISH MOWER into denser growth.

Slopes

Refer to your Tractor Users Manual for slope safety information and operation guidelines.

Chapter 4: Maintaining The DR 72" 3-POINT HITCH FINISH MOWER

Regular maintenance is the way to ensure the best performance and long life of your machine. Please refer to this manual for maintenance procedures.

⚠ WARNING

Disengage PTO, shut down the Tractor Engine, remove the Key, wait for all moving parts to come to a complete stop, disconnect the PTO shaft from the Tractor, then wait five minutes before performing any maintenance procedure or inspection on the Mower.

Regular Maintenance Checklist

Note: Consider that the service intervals shown are the maximum under normal operating conditions. Increase frequencies under extremely dirty or dusty conditions. See the Owners Manual that came with the Tractor and with the PTO Shaft for Specific Tractor and PTO Shaft maintenance.

PROCEDURE	BEFORE EACH USE	EVERY 8-10 HOURS	EVERY 18-20 HOURS	EVERY 30 HOURS	EVERY 50 HOURS
Check General Equipment Condition, e.g. Nuts, Bolts, Welds, etc.	▲				
Clean all Debris from the machine.	▲				
Check the Blades for sharpness.	▲				
Replace broken or damaged Cutting Blades.	▲				
Lubricate Blade Spindles and Caster Wheel Bracket Grease Fittings		▲			
Check Belt tension and condition			▲		
Lubricate PTO Shaft Spline ends and center overlap			▲		
Replace Gearbox Oil				▲	
Replace the Belt					▲

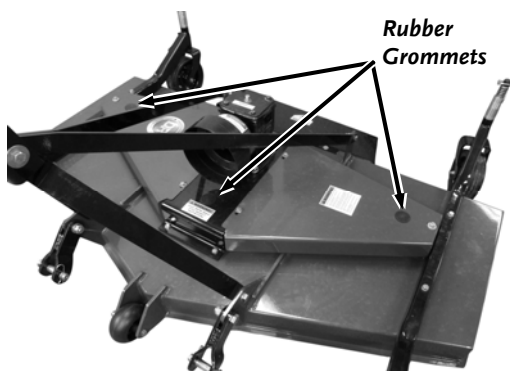


Figure 35

Greasing the Blade Bearings

Tools and Supplies Needed:

- Grease Gun (general purpose grease)
 - Rags
3. Remove the three Rubber Grommets from the Belt Covers and Gearbox Seat (**Figure 35**).
 4. Wipe any grease or dirt from all Grease Fittings with a rag.
 5. Grease the Finish Mower at all three Blade Spindle Grease Fittings with 3 to 4 pumps of the Grease Gun.
 6. Wipe off any excess grease with a rag.
 7. Replace the Rubber Grommets when finished.

Greasing the PTO U-Joints

Your PTO Shaft was greased at the Factory so it will not need grease until the scheduled maintenance as listed at the beginning of this Chapter.

Tools and Supplies needed:

- Flexible hose grease gun
- Lithium grease
- Clean cloth

Note: The U-Joint Grease Fitting is sometimes located on the inside of the Joint. The plastic Collar will need to be unclipped and pushed down to access the Fitting for this type.

1. Wipe all dirt, etc., from the PTO Shaft grease fittings with a clean cloth.
2. Apply no more than three pumps of quality general-purpose lithium grease with a hand-pumped grease gun to each of the two U-Joint Grease Fittings (Figure 36).

Greasing the Wheel Brackets

3. Wipe all dirt, etc., from the Wheel Support fitting with a clean cloth (Figure 37).
4. Apply quality general-purpose lithium grease with a hand-pumped grease gun to the Wheel Support Grease Fitting as needed.

Adding Oil to the Gearbox

Tools and Supplies needed:

- 17mm Wrench
- 8mm Allen Wrench
- S.A.E. 80w/90 or S.A.E. 85w/140 Multi-purpose gear oil
- Clean Rags

Note: The Gearbox uses S.A.E. 80w/90 or S.A.E. 85w/140 Multi-purpose gear oil.

1. Remove the Gearbox Plug in the top of the Gearbox using a 17mm Wrench (Figure 38).
2. Remove the Overflow Plug from the side of the Gearbox using a 8mm Allen Wrench. If Oil flows from the drain hole, the Gearbox is already full. If Oil does not flow, go to the next step.
3. Add oil to the Gearbox until it starts draining from the overflow hole.
4. Reinstall the Overflow Plug into the side hole.
5. Install the Gearbox Plug into the top of the Gearbox.

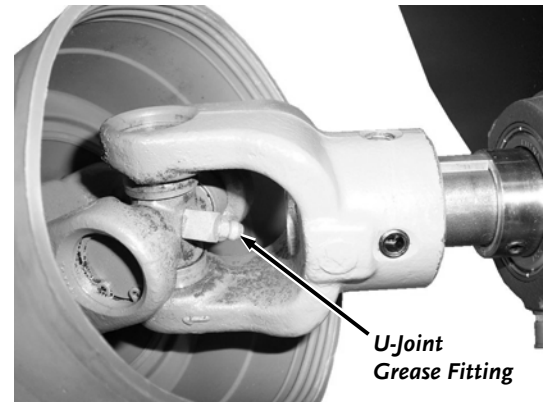


Figure 36

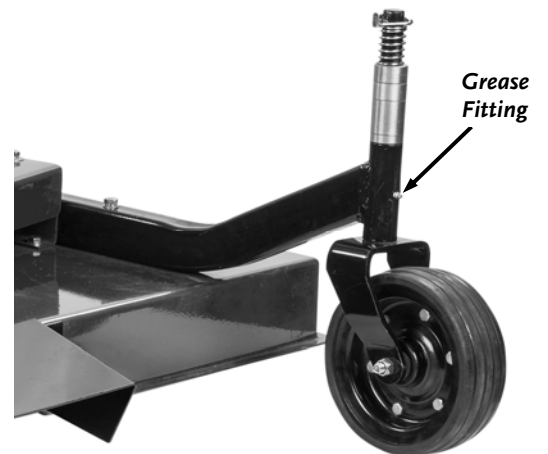


Figure 37

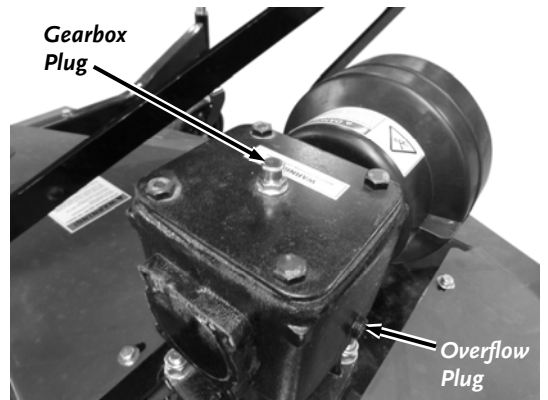


Figure 38

Replacing the Cutting Blades

! WARNING

- Wear Gloves to protect your Hands from the sharp edges of the Blades. Wear Safety Glasses to protect your eyes from debris.
- Only use DR Power Equipment Cutting Blades. They have been designed and thoroughly tested for this Finish Mower. Use of other Blades may damage the machine and/or cause serious injury to the operator. Damage caused by not using DR Blades is not covered under warranty.

Tools and Supplies Needed:

- Four Jack Stands
- Block of Wood
- 27mm Socket with Breaker Bar*
- Large Adjustable Wrench
- Torque Wrench
- Safety Glasses
- Gloves

* It is recommended that an Impact Wrench be used to remove and install the Blades. The Belts will hold the Blade from turning better if an Impact Wrench is used.

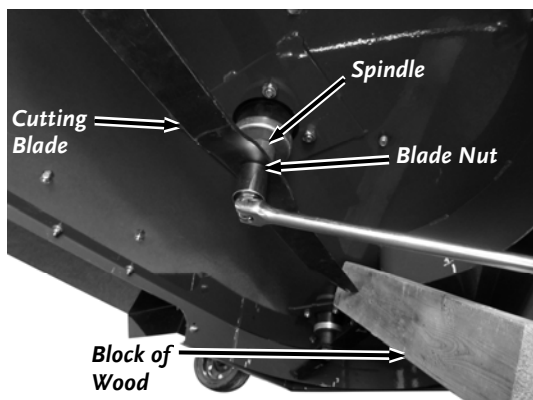


Figure 39

1. Lift the Finish Mower Deck with the Tractor high enough off the ground so Jack Stands can be inserted for support.

Note: If the Mower is not attached to the Tractor a Jack can be used to lift the Mower to insert Jack Stands.

2. Place at least four Jack Stands at the edges of the Mower Deck (one at each corner).
3. Place a Block of Wood between the Blade tip and Deck to stop the Blade from turning (**Figure 39**).
4. Remove the Blade Locknut using a 27mm Socket with Breaker Bar.

Note: If the Spindle turns when loosening the Blade Locknut, hold the flats of the Spindle with a large Adjustable Wrench.

5. Position the new Blade with the Air Tips pointing up.
6. Hold the Spindle using a large Adjustable Wrench. Secure the Blade with the Locknut using a 27mm Socket with Breaker Bar.
7. Ensure all Blade Locknuts are tightened to 72 ft/lbs using a Torque Wrench.
8. Remove the Jack Stands and lower the Finish Mower to the ground.

Replacing the Drive Belts

Tools and Supplies needed:

- Gloves
- 13mm Wrench
- 16mm Wrench
- 24mm Wrench
- 18mm Wrench

CAUTION

Always wear Gloves when changing the Belts. There is tension on the Belts and your hand may get pinched when rolling the Belt on or off the Pulleys.

NOTICE

Use only DR belts on your machine. Do not use hardware store variety belts.

1. Remove the Bolt, Lock Washer and Plain Washer from the outer portion of the Belt Covers using a 16mm Wrench (**Figure 40**).
2. Remove the two Bolts, Lock Washers and Plain Washers from the inner portion of the Belt Covers using a 13mm Wrench.
3. Remove both Belt Covers.
4. Loosen the four Gearbox Locknuts using a 24mm Wrench (**Figure 41**).

Note: Do not loosen the Gearbox Locknuts too much. They are fastened to Carriage Bolts and the flats of the Carriage Bolts will drop down too far to be held by the flats. If the Locknuts are loosened too much, push up on the Carriage Bolts when the Locknuts need to be tightened.

5. Loosen the Jam Nut and turn it out toward the Tensioner Bolt Head using a 18mm Wrench.
6. Turn the Tensioner Bolt away from the Gearbox to allow the Gearbox to move toward the front of the Mower.
7. Make sure you protect your hands with Gloves as you Roll the Belts off the outer Pulleys (**Figure 42**).

Note: Turning the Blade from under the Deck will make it easier to rotate the Pulley and remove the Belt.

8. Remove the Bolts and Locknuts that secure the front of the Gearbox Seat to the Deck using a 16mm Wrench for the Bolts and a 17mm Wrench for the Locknut.
9. Lift the front of the Gearbox Seat up as you move the Belts up and off the front Pulley.
10. Remove the Belts from the large rear Pulley.
11. Install both Belts around the front and rear Pulleys. See note below.

Note: The Belts cannot be installed onto the center Pulleys one at a time. They must be installed together (one Belt placed on top of the other) and installed over each Pulley at the same time.

12. Reinstall the front Bolts you removed in step 8.

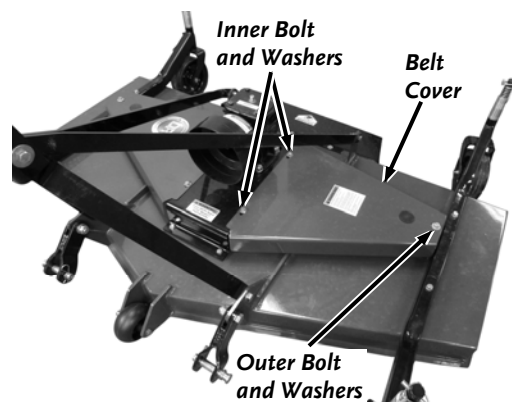


Figure 40

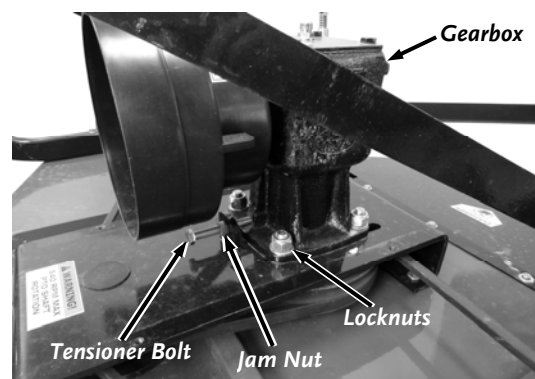


Figure 41

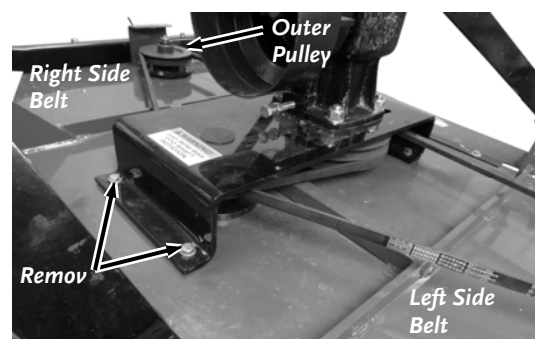


Figure 42

13. Install the lower Belt around the right side outer Pulley.
14. Install the upper Belt around the left side outer Pulley.
15. Turn the Tensioner Bolt toward the Gearbox until the Belts deflect no more than 1/2" when approximately 5 lbs. of pressure is applied with your hand. Tighten the Jam Nut to secure the Tensioner Bolt.
16. Tighten the four Locknuts to secure the Gearbox to the Gearbox Seat.
17. Install both Belt Covers and secure each with the two inner Bolts, Lock Washers, and Plain Washers and one outer Bolt, Lock Washer and Plain Washer.

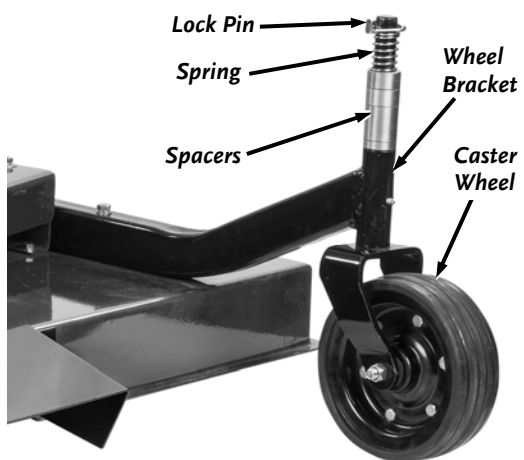


Figure 43

Replacing the Caster Wheel

The machine must be lifted by the 3-Point Hitch or Jacked up to allow the Caster Wheel to be removed.

1. Remove the Lock Pin and remove the Caster Wheel with Spacers from the Wheel Bracket (**Figure 43**).
2. Install the new Caster Wheel and Spacers.
3. Secure with the Lock Pin.

Chapter 5: Troubleshooting

Most problems are easy to fix. Consult the Troubleshooting Table below for common problems and their solutions. If you continue to experience problems, contact us at www.DRpower.com or call toll-free 1-800-DR-OWNER (376-9637) for support.

WARNING

Disengage PTO, shut down the Tractor Engine, remove the Key, wait for all moving parts to come to a complete stop, disconnect the PTO shaft from the Tractor, then wait five minutes before performing any maintenance procedure or inspection on the Trimmer.

Troubleshooting Table

SYMPTOM	POSSIBLE CAUSE
<i>Poor cut quality</i>	<ul style="list-style-type: none">⇒ Blades needs to be sharpened or replaced.⇒ PTO not turning at 540 rpm.⇒ Tractor speed too fast.
<i>Scalping</i>	<ul style="list-style-type: none">⇒ Caster Wheel setting too low; Adjust as needed.⇒ Caster Wheel adjustment is off; Check that all casters are set at the same height.
<i>Machine stops cutting</i>	<ul style="list-style-type: none">⇒ Inspect Cutting Blades.⇒ Check belt tension/wear.⇒ Check PTO rotation.
<i>The Blades won't spin or lacks power</i>	<ul style="list-style-type: none">⇒ Check if PTO Shaft is connected correctly.⇒ The Belt may be worn, frayed or broken; If so, replace it.⇒ If none of the above helps, visit our web site at www.DRPower.com or call 1-800-DR-OWNER (376-9637) for assistance.

DR[®] 72" 3-POINT HITCH FINISH MOWER



2-Year Limited Warranty Terms and Conditions

The DR[®] 72" 3-POINT HITCH FINISH MOWER is warranted for two (2) years against defects in materials or workmanship when put to ordinary and normal consumer use; ninety (90) days for any other use.

For the purposes of all the above warranties, "ordinary and normal consumer use" refers to non-commercial residential use and does not include misuse, accidents or damage due to inadequate maintenance.

DR Power Equipment certifies that the DR[®] 72" 3-POINT HITCH FINISH MOWER is fit for ordinary purposes for which a product of this type is used. DR[®] Power Equipment however, limits the implied warranties of merchantability and fitness in duration to a period of two (2) years in consumer use, ninety (90) days for any other use.

The 2-Year Limited Warranty on the DR[®] 72" 3-POINT HITCH FINISH MOWER starts on the date the machine ships from our factory. The 2-Year Limited Warranty is applicable only to the original owner.

The warranty holder is responsible for the performance of the required maintenance as defined by the manufacturer's owner's manuals. The warranty holder is responsible for replacement of normally wearing parts such as the Drive Belts, Cutting Blades and PTO shaft. Accessories to the machine are not covered by this warranty.

During the warranty period, the warranty holder is responsible for the machine transportation charges, if required. During the warranty period, warranty parts will be shipped by standard method at no charge to the warranty holder. Expedited shipping of warranty parts is the responsibility of the warranty holder.

SOME STATES DO NOT ALLOW LIMITATIONS ON THE LENGTH OF IMPLIED WARRANTIES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

DR[®] Power Equipment shall not be liable under any circumstances for any **incidental or consequential damages or expenses** of any kind, including, but not limited to, cost of equipment rentals, loss of profit, or cost of hiring services to perform tasks normally performed by the DR[®] 72" 3-POINT HITCH FINISH MOWER.

SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU ALSO HAVE OTHER RIGHTS, WHICH VARY FROM STATE TO STATE.

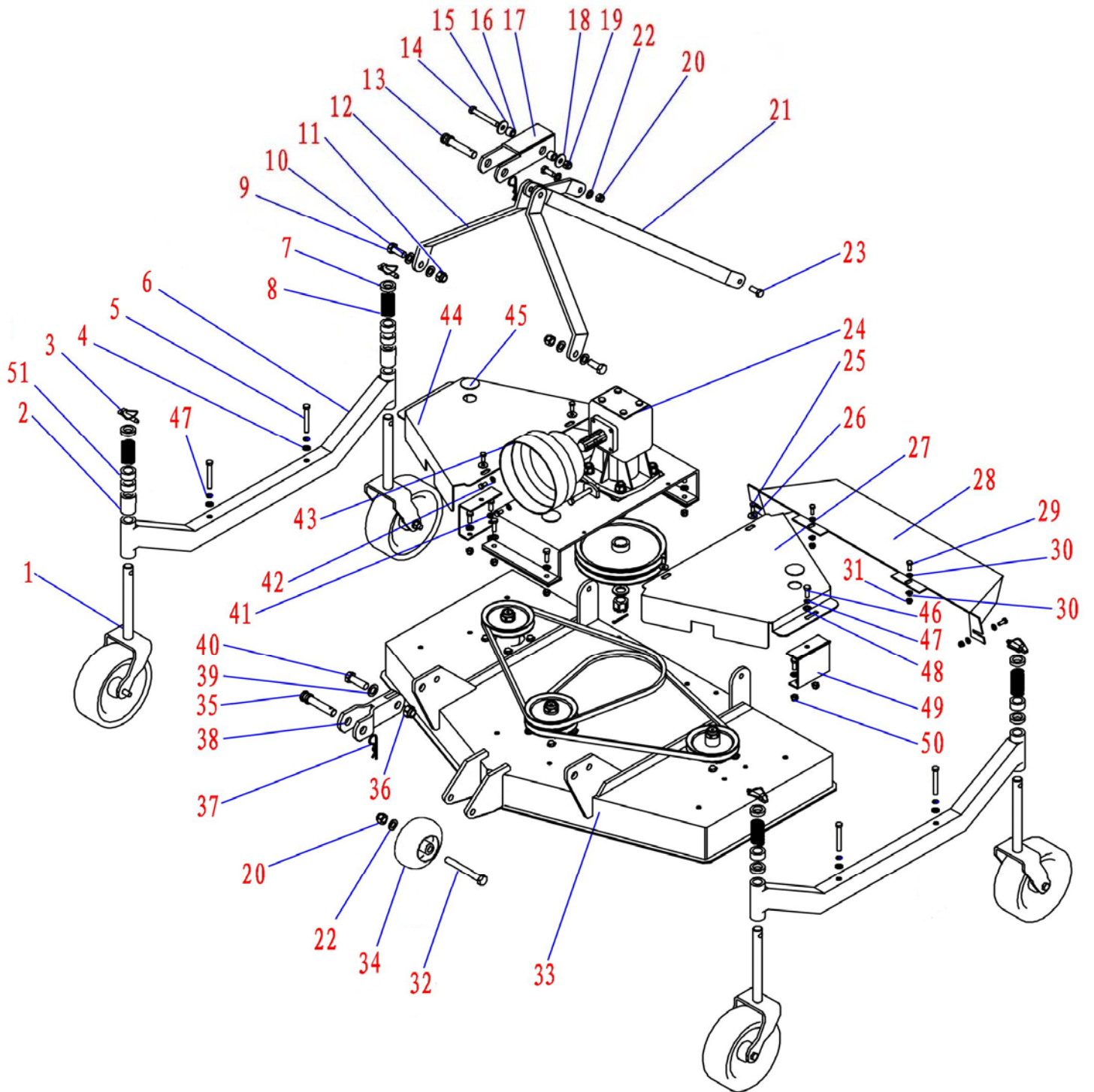
Chapter 6: Parts Lists and Schematic Diagrams

Parts List – Deck Assembly

Note: Part numbers listed are available through DR Power Equipment.

<u>Ref#</u>	<u>Part#</u>	<u>Description</u>	<u>Ref#</u>	<u>Part#</u>	<u>Description</u>
1	40818	Wheel Assembly	27	40845	Cover, Belt, Right
2	40819	Spacer, Long, Adjusting	28	40846	Guard, Discharge
3	40820	Pin, Lock	29	40843	Bolt, M8 X 20
4	40821	Washer, Plain, M10	30	40848	Washer, Plain, M8
5	40822	Bolt, M10 X 80	31	40849	Locknut, M8
6	40823	Bracket, Wheel	32	39441	Bolt, M12X125
7	40824	Spacer, Short, Adjusting	33	40850	Deck Weldment
8	40826	Spring, Wheel	34	15708	Wheel, Anti-Scalp
9	40827	Bolt, M16 X 40	35	40852	Pin, Bottom Link
10	40828	Washer, Plain, M16	36	40853	Locknut, M18
11	40829	Locknut, M16	37	40851	Pin, Retaining
12	40830	Rod, Front Link	38	40855	Yoke, Bottom Link
13	40831	Pin, Top Link	39	40856	Washer, Plain, M18
14	40832	Bolt, M12 X 90	40	40857	Bolt, M18 X 55
15	40833	Washer, Plain, M12 Large OD	41	40858	Bolt, M8 X 16
16	40834	Spacer, Yoke	42	40848	Washer, Plain, M8
17	40835	Yoke, Top Link	43	40860	Cover, Plastic
18	40833	Washer, Plain, M12 Large OD	44	40861	Cover, Belt, Left
19	40837	Locknut, M12	45	40862	Cover, Rubber
20	40837	Locknut, M12	46	40863	Bolt, M10 X 25
21	40839	Rod, Rear link	47	40864	Washer, Lock, M10
22	40840	Washer, Plain, M12	48	40821	Washer, Plain, M10
23	40841	Bolt, M12 X 30	49	40866	Support, Cover
24	40842	Transmission Assembly	50	40867	Locknut, M10
25	40843	Bolt, M8 X 20	51	40825	Spacer, Medium, Adjusting
26	40844	Washer, Plain, M8			
			Not Shown		
			39076		PTO Shaft Assembly

Schematic – Deck Assembly

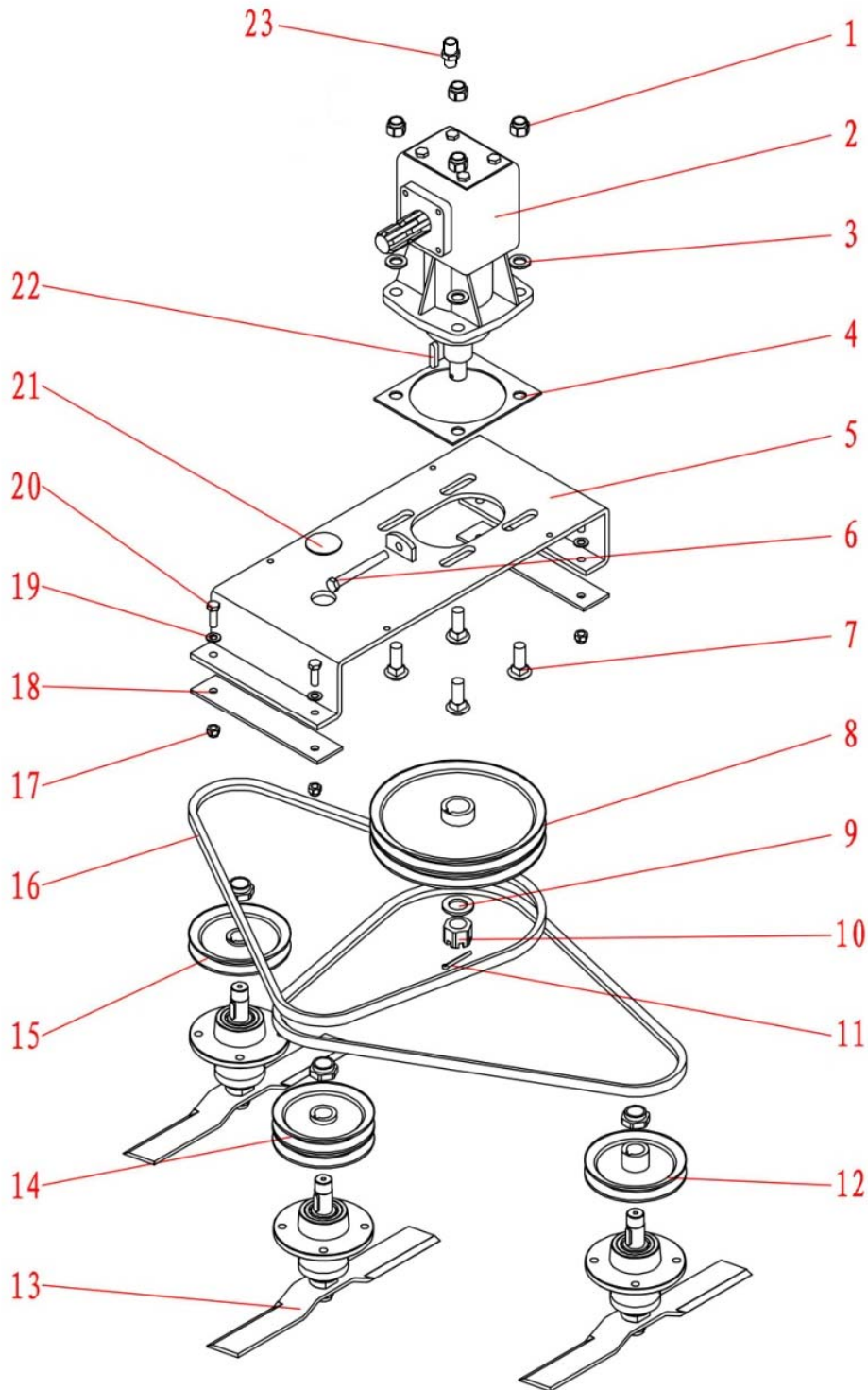


Parts List – Transmission Assembly

Note: Part numbers listed are available through DR Power Equipment.

<u>Ref#</u>	<u>Part#</u>	<u>Description</u>	<u>Ref#</u>	<u>Part#</u>	<u>Description</u>
1	40829	Locknut, M16	13	40880	Axle assembly, Blade
2	40869	Gear Box	14	40881	Pulley, Belt, Small, Double
3	40828	Washer, Plain, M16	15	40882	Pulley, Belt, Small, Single
4	40871	Pad, Gear Box	16	40883	Belt, B-1549/1753/1930
5	40872	Seat, Gear Box	17	40867	Locknut, M10
6	40873	Bolt, M12 X 100	18	40885	Pad, Rubber
7	40874	Bolt, M16 X 45	19	40821	Washer, Plain, M10
8	40875	Pulley, Belt, Large, Double	20	40887	Bolt, M10 X 30
9	40876	Washer, Plain, M24	21	40888	Plug
10	40877	Nut, M24	22	40889	Key, A10 X 40
11	40878	Pin, Cotter, 5mm X 50mm	23	39444	Plug, Vent
12	40879	Pulley, Belt, Small, Single			

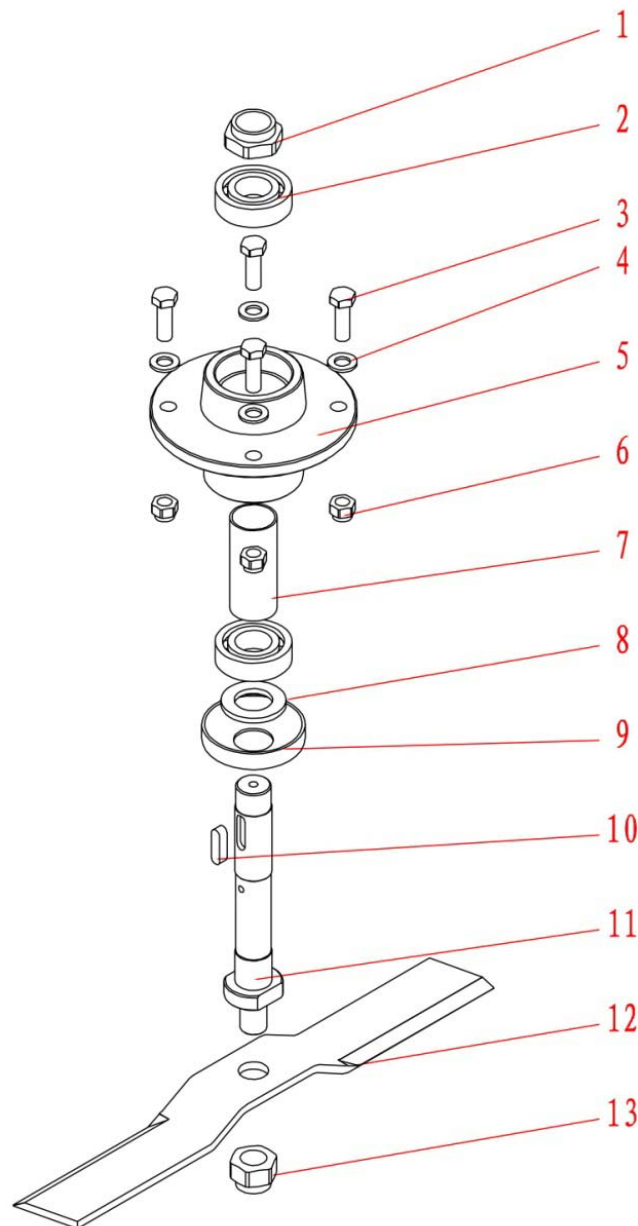
Schematic – Transmission Assembly



Parts List and Schematic– Blade Axle Assembly

Note: Part numbers listed are available through DR Power Equipment.

Ref#	Part#	Description	Ref#	Part#	Description
1	40890	Nut and Washer, M24	8	40876	Washer, Plain, M24
2	40891	Bearing, 6205	9	40898	Cover, Protective, Blade Axle
3	40887	Bolt, M10 X 30	10	40899	Key, A8 X 28
4	40821	Washer, Plain, M10	11	40900	Axle, Blade
5	40894	Seat, Blade Axle	12	40901	Blade
6	40867	Lock nut, M10	13	40853	Lock nut, M18
7	40896	Spacer, Blade Axle			



Daily Checklist for the DR 72" 3-POINT HITCH FINISH MOWER

To help maintain your DR 72" 3-POINT HITCH FINISH MOWER for optimum performance, we recommend you follow this checklist each time you use your machine.

WARNING

Disengage PTO, shut down the Tractor Engine, remove the Key, wait for all moving parts to come to a complete stop, disconnect the PTO shaft from the Tractor, then wait five minutes before performing any maintenance procedure or inspection on the Mower

[] CUTTING BLADES: Replace damaged or overly worn Cutting Blades.

[] GENERAL CONDITION: Check the general condition of the machine, e.g.; nuts, bolts, welds etc.

End of Season and Storage

WARNING

Disengage PTO, shut down the Tractor Engine, remove the Key, wait for all moving parts to come to a complete stop, disconnect the PTO shaft from the Tractor, then wait five minutes before performing any maintenance procedure or inspection on the Mower

- Lubricate PTO Shaft Grease Fittings.
- Check the Blade Belt for wear. Replace as needed.
- Loosen Gearbox Tensioner to relieve Belt stress.
- Check the general condition of the machine, e.g.; nuts, bolts, welds, etc. Replace parts or tighten Hardware as needed.
- Store in a dry covered area to protect from moisture.
- Remove any wrapped grass or weeds from the Cutting Blades and Wheel Assembly. Clean grass and debris from the top and underneath the Mower Deck.



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