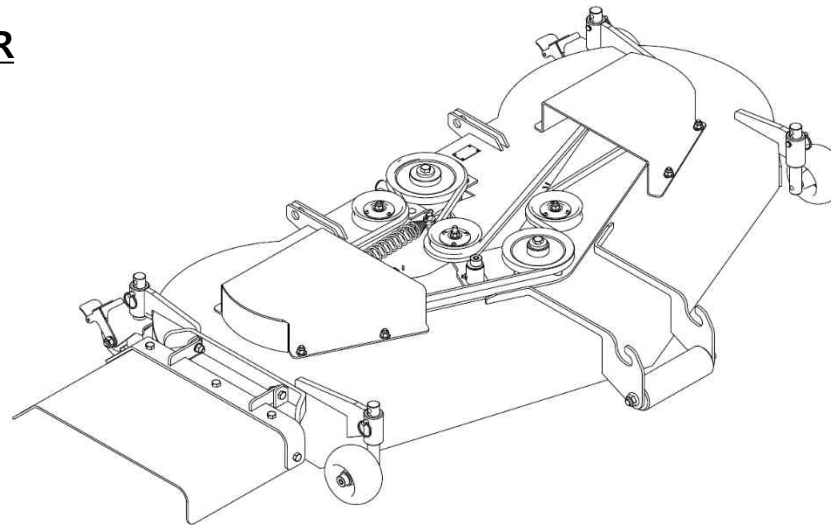


MID MOWER

60" MOWER AND MOUNTING

INCLUDES OPERATOR'S MANUAL
INSTALLATION INSTRUCTIONS AND PARTS CATALOG

MODEL NAME : MM60R



TYM TONGYANG MOOLSAN CO., LTD.

CONTENTS

PREFACE -----	3
SAFE OPERATION -----	4
- THE TRACTOR	
- THE MOWER	
- GENERAL OPERATION	
- SLOPE OPERATION	
- TRANSPORTATION	
MAINTENANCE -----	14
DECALS -----	16
SPECIFICATION -----	19
LUBRICATIONS -----	20
INSTALLATION	
- FRONT MOUNT HANGER PLATE INSTALLATION, - MID MOUNT WELDMENT INSTALLATION -----	21
- REAR MOUNT ASSEMBLY INSTALLATION-----	23
- LOWER MOUNT LINK, MID LINKAGE, REAR ASSEMBLY -----	24
- REAR LIFT ROD ASSEMBLY -----	25
- BELL CRANK AND REAR LIFT ASSEMBLY -----	26
- REAR LIFT INSTALLATION , MID LINKAGE INSTALLATION -----	27
- HEIGHT ADJUSTMENT -----	28
- MOWER INSTALATION -----	29
METRIC FASTENER(ISO)TORQUE CHART -----	31
REPLACEMENT -----	32
BLADE, BELT AND GEAR BOX	
PART ILLUSTRATIONS -----	35

PREFACE

This manual is an integral part of the mower.

All operators must read the manual before operating the mower and must have access to this manual at any time.

The purpose of this manual is to provide information for the safe and correct use of the mower and the owner and or any operator of the mower must read this manual before operating the machine.

Every effort is made in this manual and verbally by selling Dealers to ensure the safe operation of this mower. However as the actual operation is outside the control of TYM its Distributors or their Dealers, no liability of any kind is accepted for any injury or damage caused by incorrect operation of this mower.

Assistance in using this manual.

For any assistance in the use of this manual or issues not dealt with in this manual please contact your selling Dealer. If additional copies of the manual are needed they can be purchased from your selling Dealer.

For copies in a foreign language please ask your Dealer to make inquiry about the availability of a particular language

Machine Use

This machine is designed solely for use in customary lawn mowing operations. Use in any other way is considered as contrary to the intended use.

The manufacturer accepts no liability for damage or injury resulting from this misuse, and these risks must be borne solely by the user. Compliance with and strict adherence to the conditions of operation, service and repair as specified by the manufacturer also constitute essential elements for the intended use.

This machine should be operated, serviced and repaired only by persons familiar with all its particular characteristics and acquainted with the relevant safety rules (accident prevention). The accident prevention regulations, all other generally recognized regulations on safety and occupational medicine and the road traffic regulations must be observed at all times.

Setting fuel delivery beyond published factory specifications or otherwise overpowering will result in loss of warranty protection for this machine.

Any arbitrary modifications carried out on this machine will relieve the manufacturer of all liability for any resulting damage or injury.

THE TRACTOR

1. Read, understand and follow all instructions in the manual and on the machine before starting.
Failure to do so could result in serious injury or death and equipment damage.
Keep this manual in a safe place for future and regular reference and ordering service parts.
2. Read and understand all Safety Precautions in the Tractor Operator's Manual.
3. Allow only responsible operators familiar with the instructions to operate the machine.
Know the controls and how to stop tractor engine and mower quickly in an emergency.
4. Tractor must be equipped with Rollover Protective System(ROPS) and seat belt for all mower operations
foldable ROPS systems locked in the up position at all times when operating the mower.
Falling off or overturning a tractor can result in death from being run over or crushed.
5. Always wear seat belt on Rollover protective System(ROPS)equipped tractors.
Do not wear a seat belt if the tractor Rollover Protective System(ROPS) has been removed.
6. Wear personal protective equipment(PPE), such as, but not limited to, protection for eyes, ears, lungs,
head, hair, hands and feet when operating, servicing, or repairing the equipment.
Avoid wearing loose clothing or jewelry that may catch and entangle in moving parts.
7. Stop tractor engine, place in neutral, engage parking brake, lower mower deck
to ground, stop the all moving parts, remove ignition key to prevent unauthorized person
from starting tractor before servicing, repairing, or making adjustments to the equipment.
8. Never leave the tractor with the mower blades rotating, with the tractor in motion, or the engine running.
9. Use fender hand holds and steps when mounting and dismounting tractor to prevent falls.
Keep steps and Operator's platform clean and free of debris.

10. All tractor three point hitch components and hardware must be tightened to proper specifications to avoid damage to tractor or mower prior to operation. Please review tractor Operator's Manual or consult your local dealer for proper torque and tightening specifications of tractor three point hitch components.
11. Move and turn tractor at low speeds. Avoid erratic operation and excessive speed.
12. Keep the tractor in gear when traveling down hill.
13. Do not mow near drop-offs, ditches, or embankments. The tractor could suddenly overturn if a wheel travels over the edge of a ditch, or if an edge caves in.
14. Add wheel ballast for stability when operating on slopes. Pay extreme care when operating on slopes to maintain stability.
15. Do not allow anyone but the operator on the tractor or mower.
16. Pay extreme caution when loading or unloading the tractor and mower from a trailer or truck

THE MOWER

1. Do not operate the mower unless it is rigidly attached to the tractor. Failure to do so could result in serious injury or death and equipment damage.
2. Make sure the locking spring on the shaft slides freely and make sure the balls are seated firmly in the groove of the PTO shaft.
3. Keep all shields and guards securely in place.
4. Never operate the mower with the discharge deflector in the raised position.
5. Stop tractor and mower immediately upon striking a foreign object. Exit tractor in proper technique and procedure. Inspect and repair any damage before continuing mowing.
6. Stop tractor in proper procedure and wait until the mower blades stop completely. before unclogging discharge chute, adjustments, or removing any grass or debris from mower deck.
7. Make sure all hardware is properly tightened before operating the tractor and mower. See torque chart specifications in this manual as well as the tractor manual. If none are available, contact your dealer for proper values.
8. Never adjust cutting height while tractor engine or mower is running.
9. Make sure all Safety Decals are attached, clean, and free of debris so they are readable. Replace if damaged or worn.
10. Wear gloves when installing belt. Be careful to prevent fingers from being caught between belt and pulleys.
11. Be careful when installing or removing belt from spring loaded idler. Springs store energy when extended and if released suddenly, can cause injury.

GENERAL OPERATION

1. Know your controls. Read this operator's manual and the manual provided with your tractor. Learn how to stop the tractor, the engine, and the mower quickly in an emergency.
2. Watch overhead clearances carefully before driving under power lines, bridges, tree branches, or when exiting or entering buildings. These situations may allow the operator to be struck or pulled from the tractor, which could result in serious injury or death.
3. Do not put hands or feet under the mower deck or near rotating parts.
4. Always wear safety glasses with side shields or safety goggles during operation.
5. Clear the area to be mowed of objects such as rocks, toys, wire, etc. which could be struck and thrown by the mower blades.
A thrown object by the mower could travel in any direction and cause injury to the operator or a bystander. To help avoid injury, keep bystanders, children, and pets at least 75 feet from mower while in operation. Stop the mowing operation if anyone enters the area.
6. Watch for hidden hazards in the area being cut during operation.
7. Disengage the mower before shifting tractor into reverse and backing up. Always look down and behind before and while backing.
8. Stop the mower blades when crossing gravel driveways, walks or roadways.
9. Watch for traffic when operating near or crossing roadways.
10. Never directly discharge towards people, pets or property.
11. To avoid injury from thrown debris, never operate the mower when it is raised in the transport position.

12. Never allow riders on tractor.
13. Operate only daylight or with good artificial light.
14. Do not attempt to mow through unusually tall, dry grass or piles of dry leaves. Debris may build up on the mower deck or contact the tractor exhaust causing a potential fire hazard

SLOPE OPERATION

WARNING - Slopes are a major factor leading to loss of control and tip over accidents, which can result in severe injury or death. All slopes require extra caution. If slopes are greater than 15 degrees, do not operate the mower on that area otherwise serious injury or death could result.

1. Add wheel ballast for stability when operating on slopes. Pay extreme care when operating on slopes to maintain stability.
2. Use extreme caution and reduce ground speed on slopes.
3. Do not stop, start, otherwise change directions suddenly on slopes. If the tractor tires lose traction, stop mower and proceed slowly straight down the slope.
4. To prevent loss of control and overturning the tractor and mower, always mow up and down slopes, never across.
5. Do not operate or transport on steep slopes.
6. Do not mow on wet grass. Reduced traction could cause sliding on slopes.
7. Keep the tractor in gear when traveling down hill.

TRANSPORTATION

1. Always engage lift lockouts before transporting the mower.
2. Never allow riders on tractor.
3. Always use accessory lights and devices when transporting on a road or highway to warn operators of other vehicles. Check your local government regulations.

4. Be sure the slow moving vehicle(SMV) emblem is visible to the rear. If the SMV sign is worn, faded, or damage, replace immediately.
5. Use caution and reduce speed when transporting under adverse conditions, turning, or on inclines.
6. Do not operate PTO during transport.

OPERATION

WARNING - Make sure Deflector Chute is installed and correctly functioning to prevent injury. Never operate mower with chute removed or raised out of operating position.

WARNING - To avoid injury never direct the discharge of material towards bystanders or allow anyone near the machine while in operation.

CAUTION - To avoid injury and damage, re-torque all fastening hardware, including blades end spindle retaining hardware after the first hour of operation.

Safe operation of the tractor and mower is the responsibility of the operator.

Operator must be familiar with tractor and mower controls and how they function, and all safety precautions before starting operation.

The mower is designed as a finish cut mower.

Do not allow anyone but the operator on the tractor or mower. Never allow riders on tractor.

The deck cutting height is set by positioning the Clevis pin at the rear three-point Hitch area and allowing the Clevis pin to rest on the draw bar. Refer to "Cutting height. Adjustment" section of this manual for proper adjustment.

The anti-scalp wheels on each side of the mower deck can serve as a guide for mowing.

When mowing, position the mower deck such that the anti-scalp wheel overlaps the edge of the grass previously cut.

This will assure full mower cut coverage.

Mowing should be performed with the tractor engine operating at the recommended RPM.

Do not mow at high ground speed. Operating at recommended RPM will insure proper blade speed for effective cutting and discharge of grass from the deck.

For best results, it is recommended that the first two passes around the area to be mowed has the discharge chute directed towards the center. After the first two passes have been completed, reverse direction to have the discharge chute pointed outward. This will give a better appearance to the lawn.

Blade sharpness will affect the appearance of the area cut. Dull or damaged blades will cause the grass to appear torn, rather than cut cleanly.

Do not cut the grass too short. Short grass will promote weed growth and yellows in dry weather. Allow grass to grow longer in hot, dry conditions. The additional length reduces heat build-up, preserves needed moisture and protects the grass from heat damage.

Mow often. Do not allow the grass to get too tall. Mowing areas with tall grass may require primary cutting at the maximum height. After completing the mowing operation at the maximum height, the area can be recut with the mower set at the desired height.

OPERATION

WARNING - Make sure Deflector Chute is installed and correctly functioning to prevent injury. Never operate mower with chute removed or raised out of operating position.

WARNING - To avoid injury never direct the discharge of material towards bystanders or allow anyone near the machine while in operation.

CAUTION - To avoid injury and damage, re-torque all fastening hardware, including blades end spindle retaining hardware after the first hour of operation.

At certain times of the year and under some conditions, the mower may leave streaks of uncut grass. The general cause is tall grass and weeds. With this type of condition, it may be necessary to make a second pass over the cut area to get an even cut.

Cutting off too much at one time shocks the plant's growth system and weakens the grass plants. A good guideline to follow is the 1/3 rule: cut no more than one third of the grass height, and never more than 1 inch at a time.

Mow when the grass is 3 to 4 inches tall.

The time of day and condition of the grass will affect the results you obtain when mowing. Mow at the time of day when the grass is cool and dry. Late afternoon or early evening will provide the most ideal conditions. Do not mow when the grass is wet or heavy with dew. Wet grass can build up on the underside of the deck, creating an imbalance through the blades and spindles, causing possible damage to the mower deck belt. Wet grass also leaves unsightly clumps on the lawn.

Should the mower deck become plugged, raise deck, shut off engine, set parking brake, and lock the deck in the transport position.

Clean the underside of the mower deck using a scraper.

Operate the mower only in daylight or with good artificial light.

MAINTENANCE

1. Protect your eyes- Wear Safety Glasses.
2. Never run the tractor and mower inside a closed area. Engine exhaust fumes can be lethal.
3. Always engage lift lockouts before servicing the mower.
4. Before performing any service work, make sure hoists, floor jacks, and jack stands are in good working order and properly rated to support the tractor and mower.
5. Do not work under the tractor or mower unless they are secured by a hoist and jack stands. Never place any body part underneath equipment or between moveable parts even after tractor has been turned off. Hydraulic system leak downs, hydraulic system failures, mechanical failures, or control lever movement can cause mower and tractor components to drop or rotate unexpectedly and cause serious injury or death.
6. Avoid injury, do not adjust, service, clean, or unclog the mower when the tractor engine is running.
7. Frequently check the mower blades. They must be sharp and free of nicks, cracks and securely fastened.
8. Do not handle mower blades with bare hands. Wear leather gloves or wrap blades in the area Where they will be handled. Improper handling may result in serious injury.
9. Your dealer can supply genuine replacement blades. Non-genuine blades may not meet original equipment specifications and may be dangerous if installed.
10. To reduce fire hazard, keep the tractor and mower free of grass, leaves, or other debris build up. Debris may build up on the mower deck or contact the tractor exhaust causing a potential fire hazard.
11. Never alter safety devices. Check their proper operation regularly. Use all guards as instructed in this manual.
12. It is not recommended to use a pressure washer to clean the mower assembly. High pressure water may cause 14 damage to spindles, pulleys, belts, or bearings, shortening life and reducing serviceability.

MAINTENANCE

1. FILLING DIAGRAM AND SERVICE INTERVALS

Filling diagram shows the maintenances required and the intervals.

Follow this checking schedule according to each indices to the satisfactory operation of the machine

No.	Check Point	New	After first 10hrs	Every 50hrs	Every 150hrs	Every year	Every start of work	Every end of work	Reference page
1	Gear box oil leakage check	○	○	○	○	○	○	○	
2	Gear box oil check		○	○	○	○	○		
3	Gear box oil change				◎	○			
4	Gear box oil seal change					○			At Breakage
5	whether blades are tightened up or not	○	○	○	○	○	○	○	
6	Blade wear check			○	○	○	○	○	
7	Blade balance and appearance check	○	○	○	○	○	○	○	
8	All hardware check	○		○	○	○	○		
9	whether all pins are in place or not	○		○	○	○	○	○	
10	Greasing check								
	◆ Pulley holder	○	○	○	○	○	○		
	◆ Belt tension pulley	○	○	○	○	○	○		
	◆ Belt tension arm	○	○	○	○	○	○		
	◆ Rear link shafts	○	○	○	○	○	○		
	◆ Universal Joint	○	○	○	○	○	○		
11	Front and rear wheel wear check				○	○	○		
12	Front roller wear check				○	○	○		

IMPORTANT

◆ The schedule indicated by "◎" must be done after first 50 hours previously.

SAFETY DECALS

The safety of the operator was the prime consideration on the design of the mower. Proper shielding, convenient controls, simple adjustments, and other safety features have been built into this implement.

The following decals are located on the mower deck. Keep decals clean and replace them immediately if they are missing or damaged. contact your dealer for replacements.



Part NO : 9400-500-001-0

Located on RH and LH Belt Shields



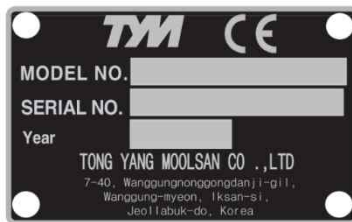
Part NO : 9400-500-002-0

Located on Deck



Part NO : 9400-500-005-0

Located on Side Cover



Part NO : 9400-500-006-0

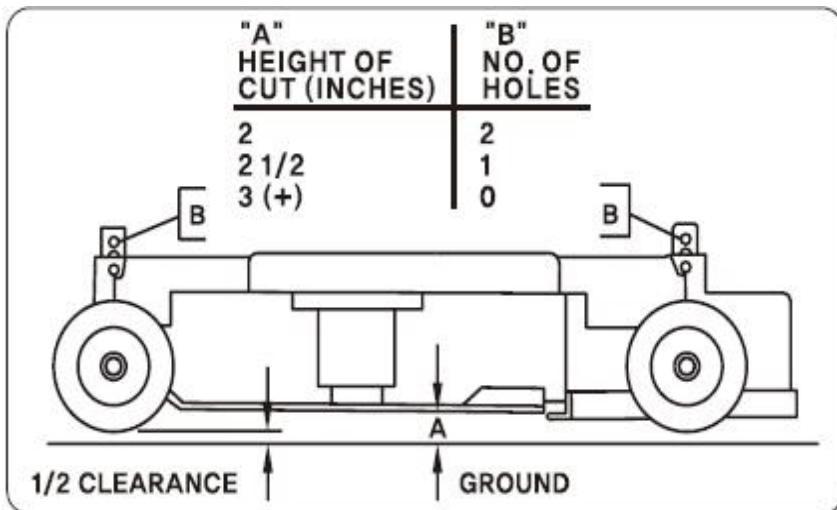
Located on Deck



Part NO : 9400-500-008-0

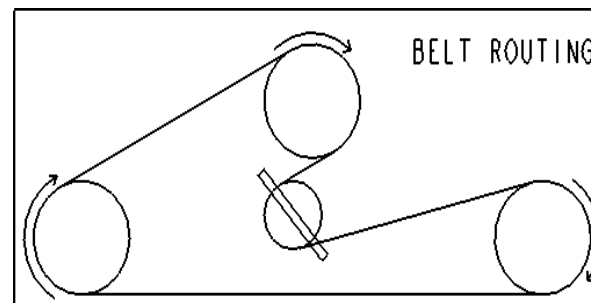
Located on Deck

INFORMATIONAL DECALS



Part NO : 9400-500-004-0

Located on Right of Deck



Part NO : 9380-500-003-0

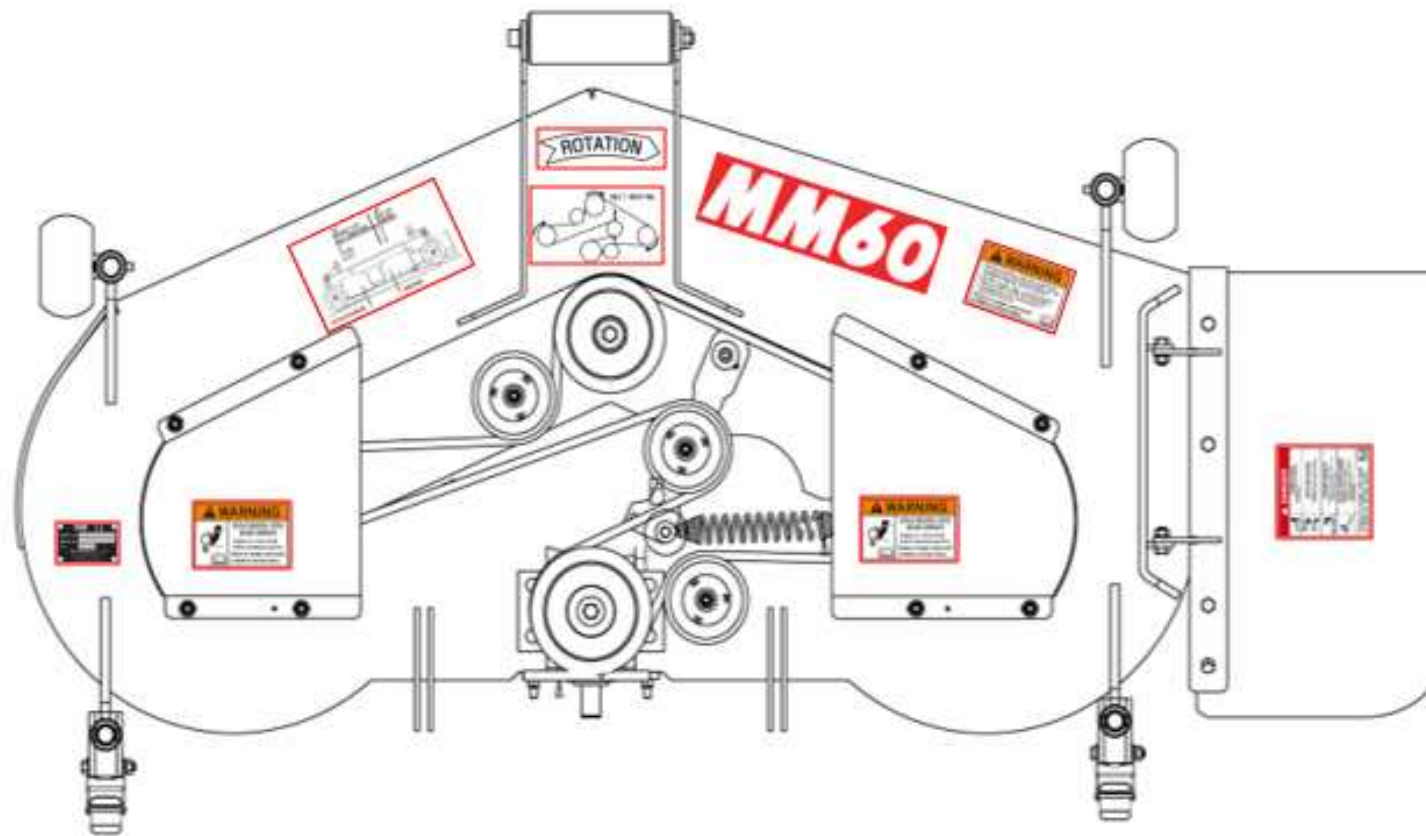
Located on Front of Deck



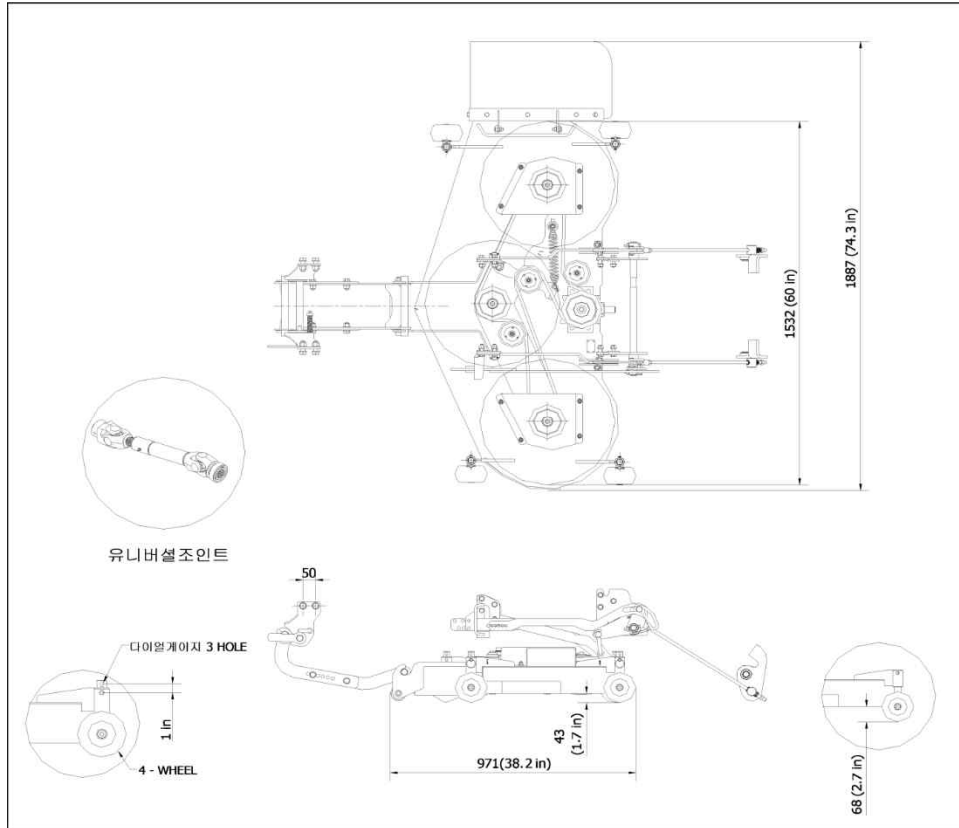
Part NO : 9400-500-007-0

Located on Front of Deck Weldment

INFORMATIONAL DECALS



MID MOWER SPECIFICATION (MM60R)



MODEL		MM60R
TYPE		Side Discharge
Mounting Method		Parallel Linkage
Dimensions	Length (in)	38.2
	Width (in)	74.3
	Height (in)	7.2
Working Width (in)		60
Cutting Height (in)		1~4
Transport Height (in)		5.12
Lift Linkage Type		Lower Link Lift
Adjustment of Increment		Dial Gauge
Wheel Height	Hole	7 EA
	Gab between Hole (in)	0.5
	Total Gab(in)	3
Applicable Tractor		T254
Number of Blades		3 EA
Blade tip Velocity (rpm)		3,363
Blade Length (in)		20.8
HP rating		20~25
Deck Thickness (in)		0.13
Weight (lb)		272
Universal Joint		Ø21.6X525L
Wheel		4 EA
Assistant Wheel		1 EA
Belt		V-Belt
Color		Super RED

LUBRICATION

NOTICE: It is not recommended to use a pressure washer to clean the mower assembly. High pressure water may cause damage to spindles, pulleys, belts, or bearings shortening life and reducing serviceability.

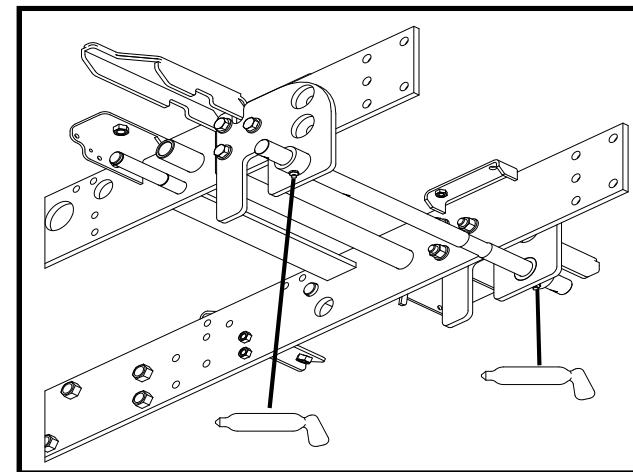
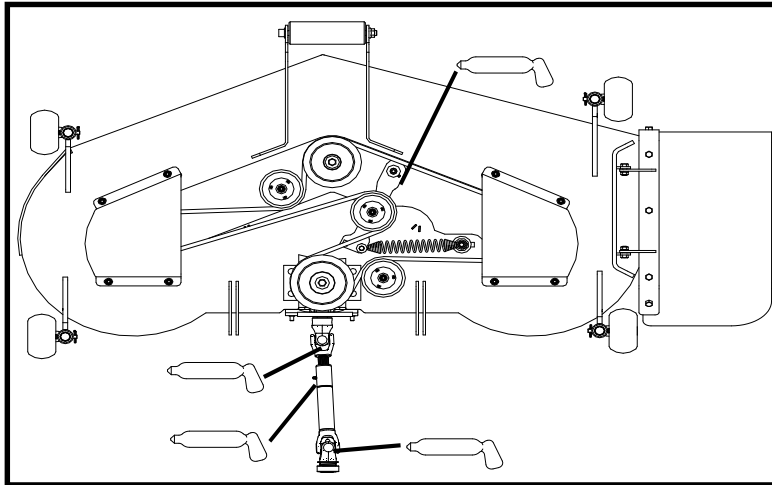
Life of the mower depends upon the maintenance given. Proper lubrication is very important. Always lubricate the deck and lift components before operation.

Always wipe the fittings to be lubricated with a clean cloth before greasing. Dirt injected into the fitting will cause damage to the machined parts.

Use SAE Multi-purpose lithium base grease on all lubrication locations shown below. Remember to wipe away excess grease, which has built up around parts.

Lubricate grease fittings after every 50 hours of operation.

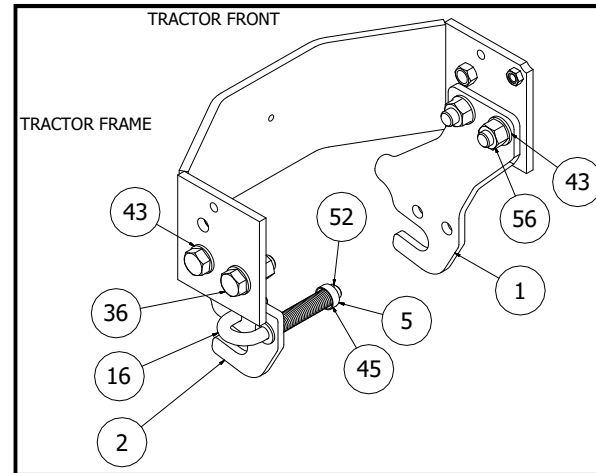
Miscellaneous working parts not provided with lubrication fittings should be oiled daily with a good grade of lubricating oil.



FRONT MOUNT HANGER PLATE INSTALLATION

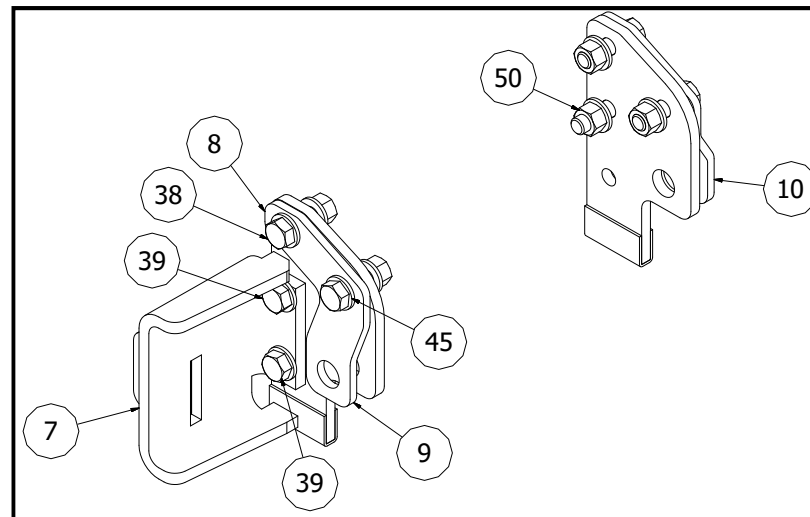
1. Install Front Mount Hangers (1,2) inside the tractor frame as shown in the picture.
Secure Hanger Plates using two M16-2.00 X 40mm Bolts(36), M16 Washers(43), and two M16-2.00 Nuts(56).
Tighten the bolts and nuts.

NOTE : Left hand Front Mount Hanger has the pre- assembled spring loaded J-latch.

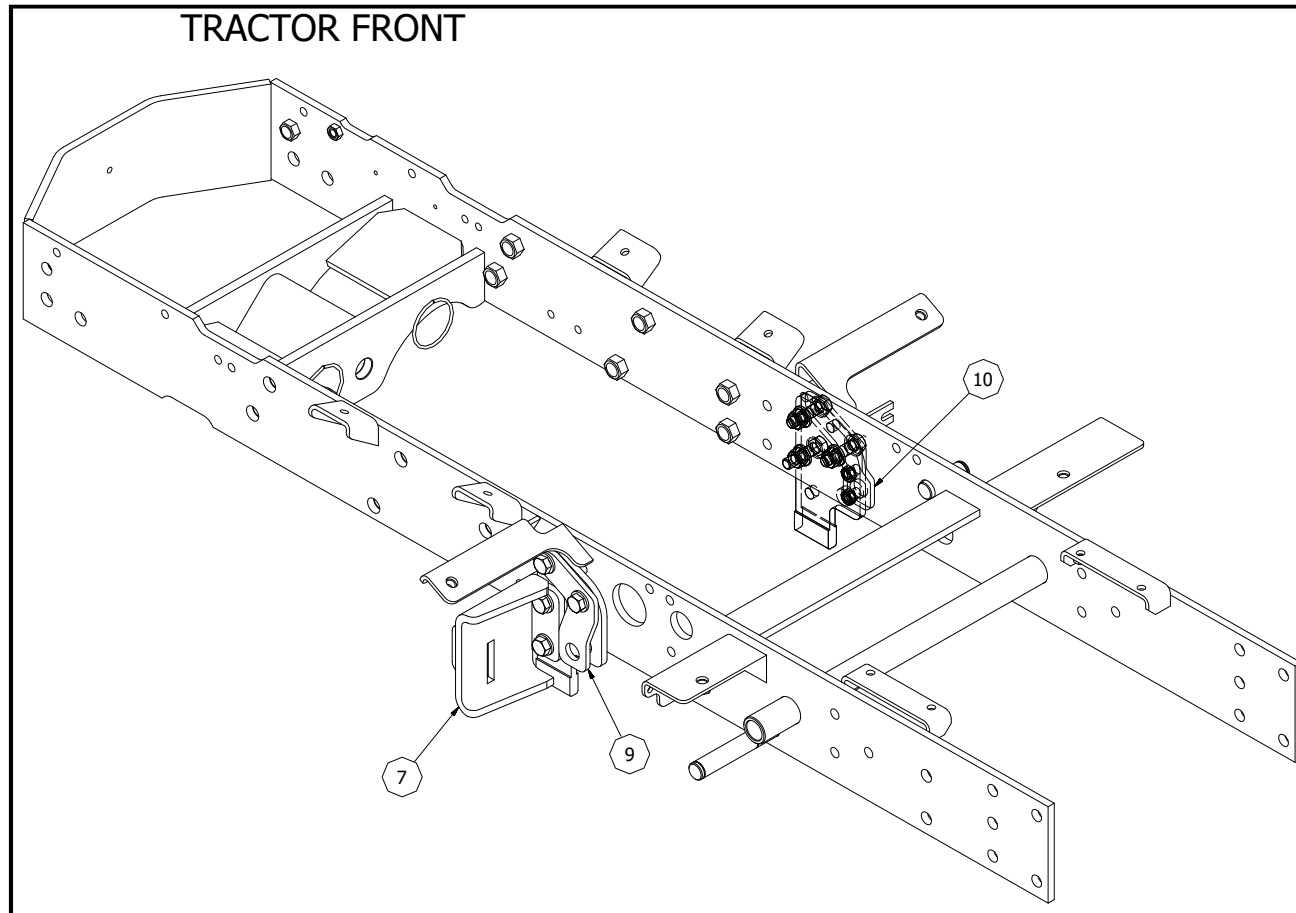


MID MOUNT HANGER PLATE INSTALLATION

1. Assemble Mid Mount(8) to right hand side of tractor with RH Offset Bracket(10) located on the outside of the mount mating up with the upper two holes. Attach using two M12-1.75 X 45 Bolts(38), one M12-1.75 X 35 Bolt(39), three M12 Washers(45), and three M12-1.75 Nuts(50). Tighten the bolts and nuts.



2. Assembly Mid Mount(8) to left hand side of tractor with LH Offset Bracket(9) located on the outside of the mount mating up with the upper two holes. Attach using two M12-1.75 X 45 Bolts(38), one M12-1.75 X 35 Bolt(39), three M12 Washers(45), and three M12-1.75 Nuts(50). Tighten the bolts and nuts

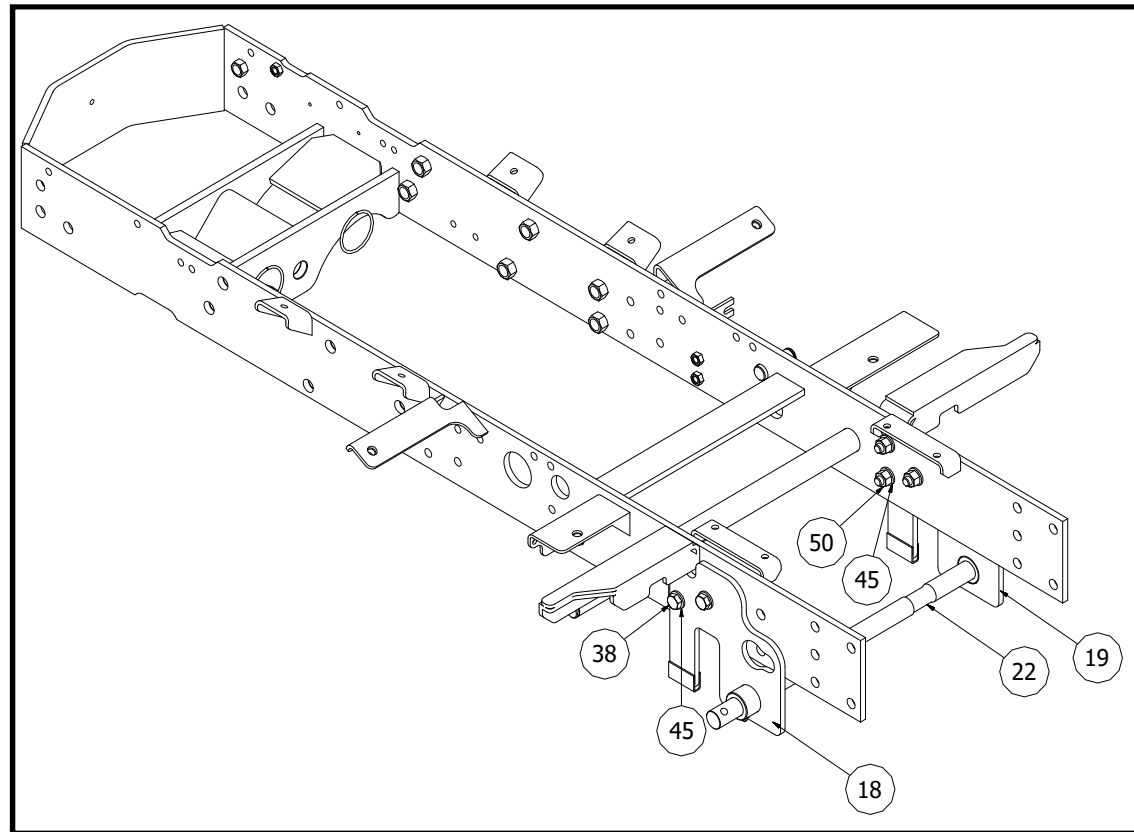


REAR MOUNT ASSEMBLY INSTALLATION

1. Install Front Mount Hangers (18,19) outside the tractor frame as shown in the picture.
Secure Hanger Plates using two M12-2.00 X 40mm Bolts(44), three M12 Washers(45),
and two M12-2.00 Nuts(50). Tighten the bolts and nuts.

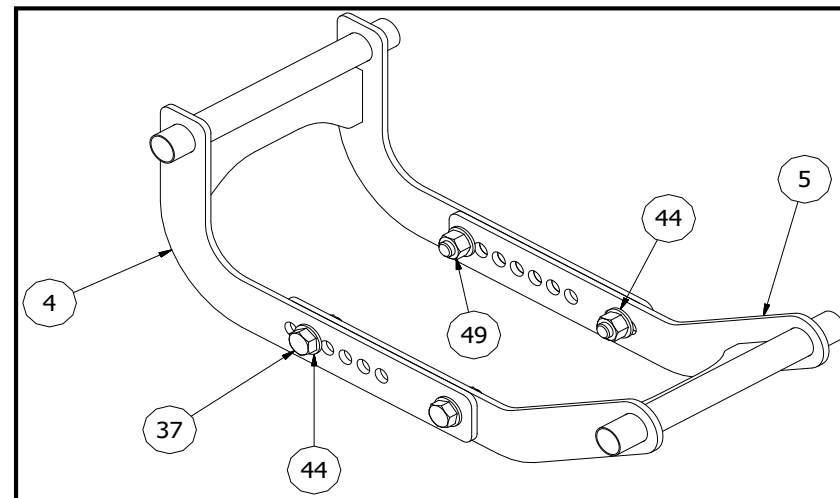
2. Insert the shaft(22) into the hole

NOTE : Do not tighten Nuts(50) at this time.



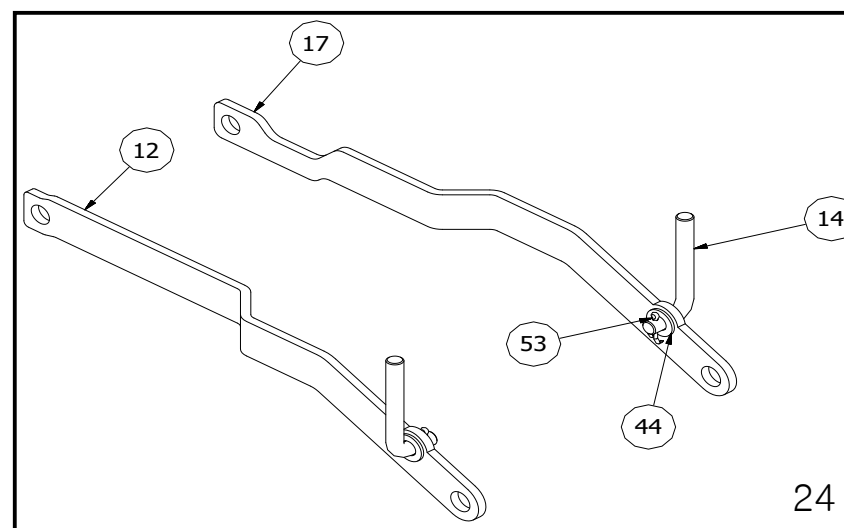
LOWER MOUNT LINK ASSEMBLY

1. Preassemble Lower Link Weldment(5) and Front Link Weldment(4) using four M14 X 2.00 x 40mm Bolts(37), eight M14 SAE Washers(44), and Nuts(49) as shown in the picture. Do not tighten the bolts and nuts fully at this time because final adjustments will be made when the Mower Deck is installed onto the tractor.



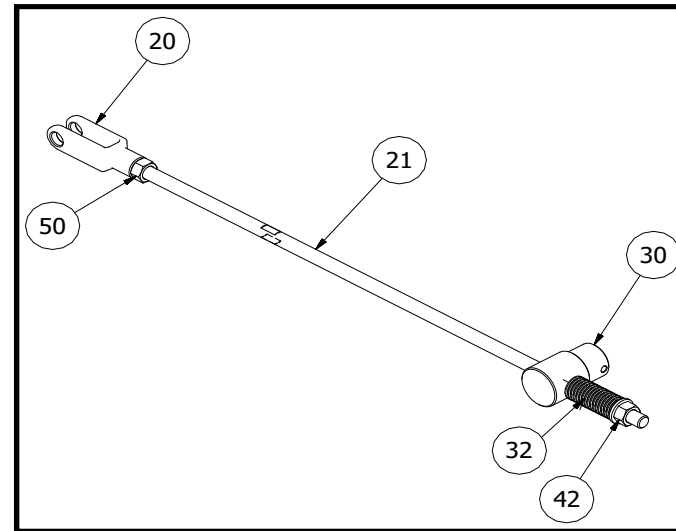
MID LINKAGE ASSEMBLY

1. Preassemble Lift Link(14) into RH Mid Linkage(17) as shown in the picture. Secure using one M14 SAE Washer(44) and one Cotter Pin(53).
2. Preassemble Lift Link(17) into LH Mid Linkage(12) as shown in the picture. Secure using one M14 SAE Washer(11) and one Cotter Pin(53).

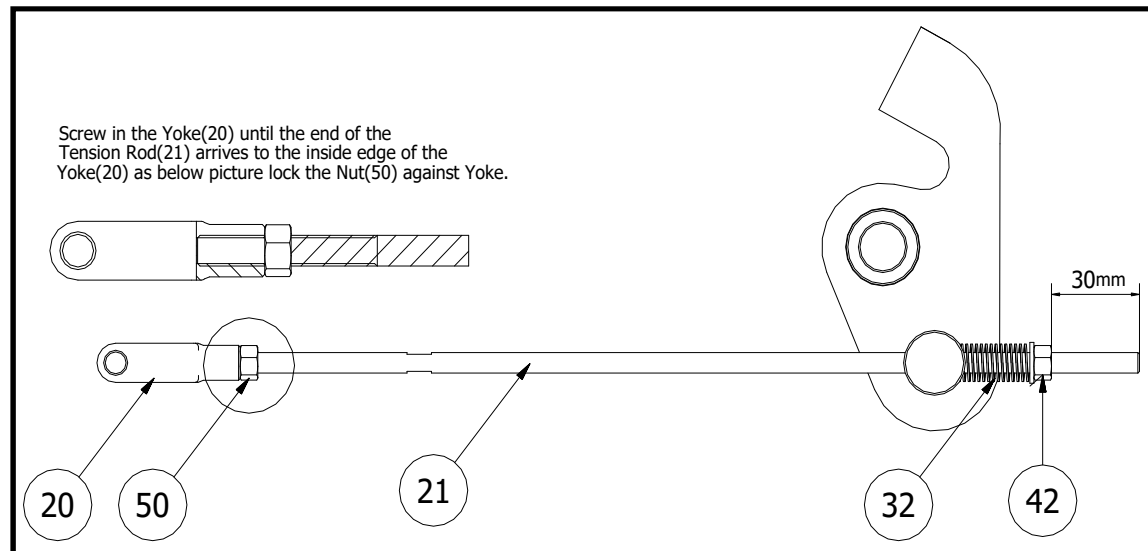


REAR LIFT ROD ASSEMBLY

1. Assemble the Nut(50) and the Yoke(20) onto left hand threaded of Tension Rod(21).
Screw in the Yoke(20) until the end of the Tension Rod(21) arrives to the inside edge of the Yoke(20) as below picture.
Lock the Nut(50) against Yoke.
2. Assemble Lift Pin(30), Spring(32), and M12 Lock Nut(42) onto right hand threaded of Tension Rod(21).
Screw in the Lock Nut(42) until the length of the end of the Tension Rod(21) becomes 30mm as shown in the below picture.

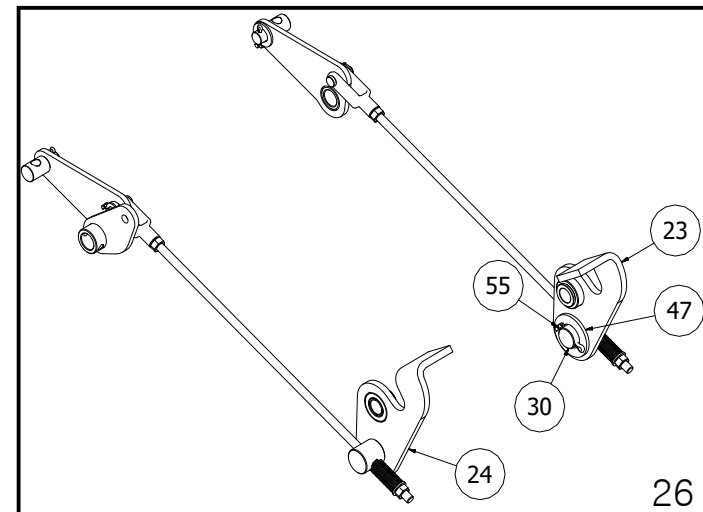
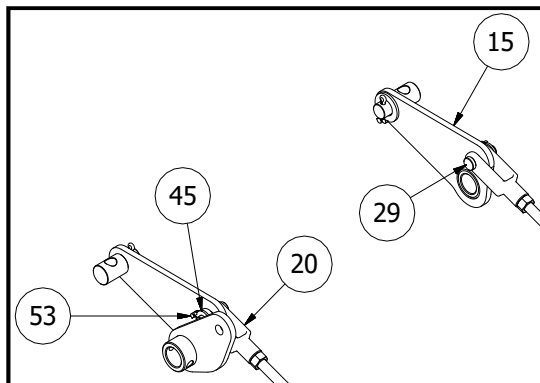
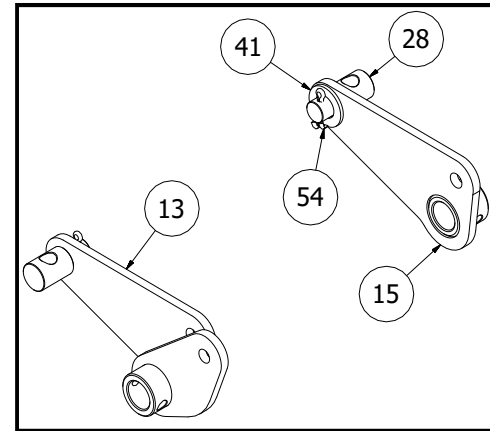


Note: Operator should check and set the clearance(30 mm) periodically during using the mower.



BELL CRANK AND REAR LIFT ASSEMBLY

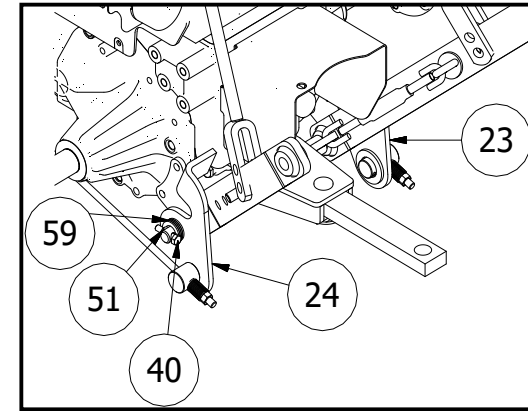
1. Assemble Lift Pin(28) and RH Bell Crank(15) as shown in the picture.
Secure using one M20 SAE Washer(41) and one Cotter Pin(54).
2. Assemble Lift Pin(28) and LH Bell Crank(15) as shown in the picture.
Secure using one M20 SAE Washer(41) and one Cotter Pin(54).
3. Assemble Yoke end of one Rear Lift Rod Assembly
and RH Bell Crank as shown in the picture.
Secure using one Clevis Pin(29) and one Cotter Pin(53)
4. Assemble Lift Pin(30) on Tension Rod(21) into RH Rear Lift(23).
Secure using M36 SAE Washer(47) and Cotter Pin(55)
5. Assemble Yoke end of remaining Rear Lift Rod Assembly
and LH Bell Crank as shown in the picture.
Secure using one Clevis Pin(29) and one Cotter Pin(53)
6. Assemble Lift Pin(30) on Tension Rod(21) into LH Rear Lift(24).
Secure using M36 SAE Washer(47) and Cotter Pin(55).



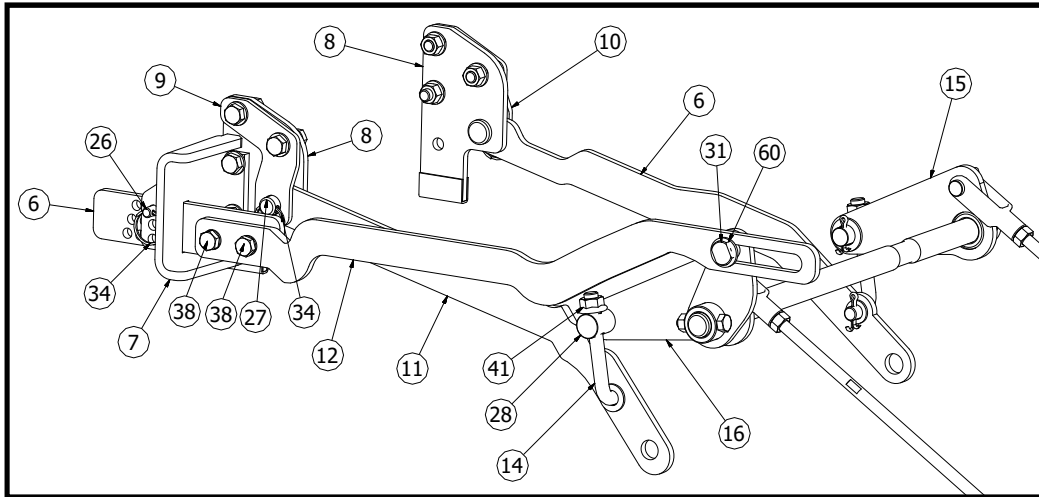
26

REAR LIFT INSTALLATION

1. Install the RH Rear Lift(23) by sliding the bushing on the lower Link Pin of the tractor. Assemble the Washer M22 (59)X4EA, Bolt M10 (40), Nut M10 (51)
2. Install the LH Rear Lift(24) by sliding the bushing on the lower Link Pin of the tractor. Assemble the Washer M22 (59)X4EA, Bolt M10 (40), Nut M10 (51)



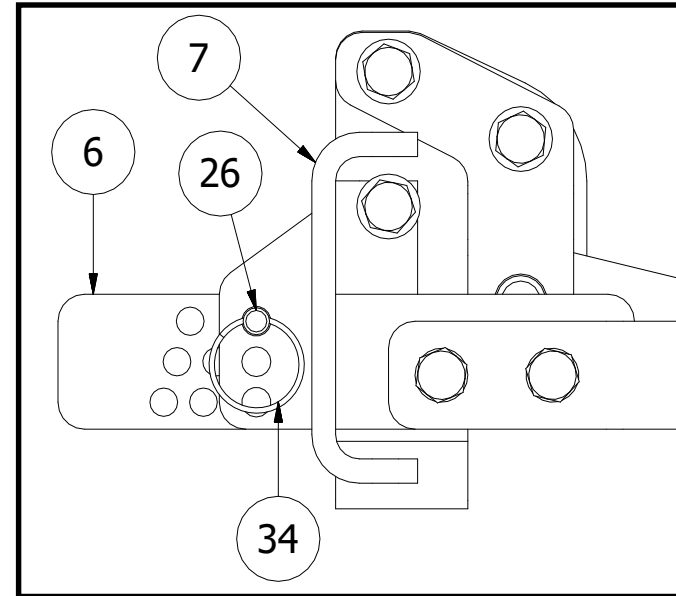
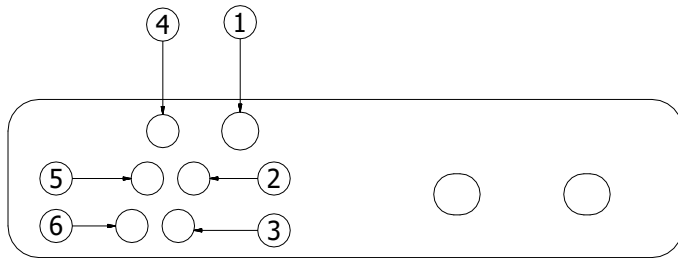
MID LINKAGE INSTALLATION



1. Connect the Right and Left Hand Mid Linkage(6,11) to the Right and Left Hand Mid Mounts(8,9,10) using $\Phi 20$ Clevis Pins(27) and Lynch Pins(34).
2. Insert the Lift Rod(14) into the Lift Pin(28).
Tighten the M14 Lock Nut(14) until the protrusion of the Lift Rod(14) becomes 5 mm.
3. After the Cut Adjustment Plates(6) is installed on the Anchor Plate(7), assemble the Anchor Plate(7) with Link Plates(12) using the M12 Bolt(38).

HEIGHT ADJUSTMENT

1. Descend until the mower touches the ground.
2. Starting to connect the PTO under the tractor, then move the adjustment plate inside the mower is raised from the state to secure the pin to the desired location



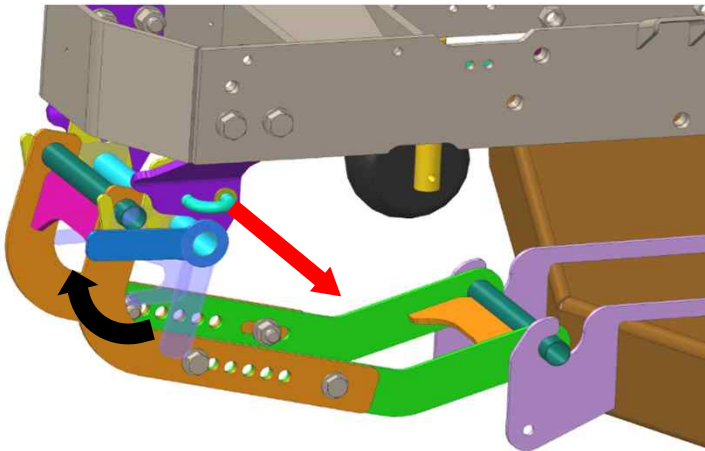
Division	Number					
	①	②	③	④	⑤	⑥
Height (mm)	360	350	335	315	305	290
inch	14.2	13.8	13.2	12.4	12	11.4
Grass Height(inch)	1.4	1.8	2.4	3.2	3.8	4.2

MOWER INSTALLATION

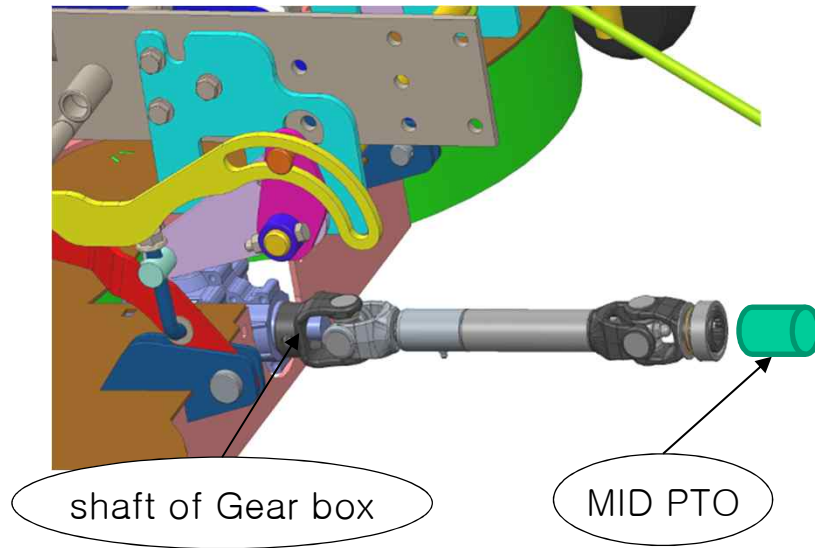
1. Connect MID LINKAGE on on the deck of main frame at the right and left with pin(27) and ring(34)



2. Connect LOWER MOUNT LINK Assy with Front hanger(1, 2) and bracket on front deck of main frame



3. Connect Universal Joint Assy with shaft of Gear box and MID PTO shaft of tractor with wrench bolt(56) and nut(57)



METRIC FASTENER(ISO) TORQUE CHART

Note : Use these torques. Unless special torques are specified. Values are for UNF thread fastener, plated or un-plated as received from supplier. Fasteners can be dry or lubricated with normal engine oil. Values do not apply if graphite, moly-disulphide or other extreme pressure lubricant is used.												
ISO Class No.	8.8				10.9				12.9			
Bolt head identification (see note 1)												
Bolt size	LB FT		NM		LB FT		NM		LB FT		NM	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
M4	2	3	3	4	3	4	4	5	Because of the low ductility of these fasteners, the torque range is to be determined individually for each application. As a general rule, the torque ranges specified for grade 10.9 fasteners can be used satisfactorily on 12.9 fasteners *M14 is not a preferred Size.			
M5	5	6	6.5	8	7	8	9.5	11				
M6	8	9	10.5	12	11	13	15	17.5				
M8	19	23	26	31	27	32	37	43				
M10	38	45	52	61	54	64	73	87				
M12	66	79	90	75	93	112	125	150				
*M14	106	127	144	172	149	179	200	245				
M16	160	200	217	271	230	280	310	380				
M20	320	380	434	515	450	540	610	730				
M24	500	600	675	815	780	940	1050	1275				
M30	920	1100	1250	1500	1470	1770	2000	2400				
M36	1600	1950	2175	2600	2580	3090	3500	4200				

REPLACEMENT

DANGER Avoid Injury - A worn or damaged blade can break, and a piece of the mower blade could be thrown into the operator's or bystander's area, resulting in serious injury or death

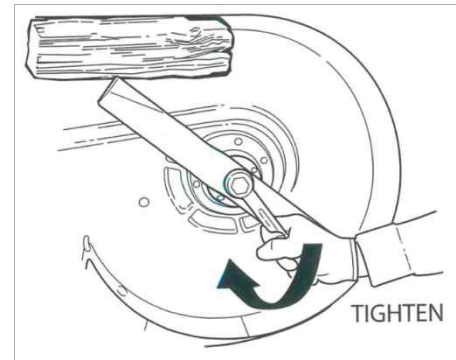
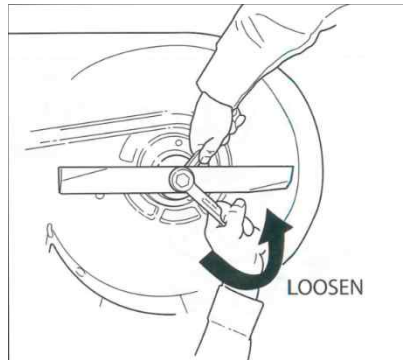
1. BLADE REMOVAL

Warning - Do not work under a raised mower deck unless it is securely supported by a hoist or jack stands.

Warning - Avoid injury when handling blades as they are sharp, wear leather gloves or protective wrap the blades.

Remove the blades using a wrench to loosen bolt securing the blade.

A block of wood must be placed between the deck housing and the blade to assist in removal of the bolt.



2. BLADE INSTALLATION

When reinstalling the blade note orientation, the "wing" must be pointing upward the top of the deck.

3. BELT REPLACEMENT

The mower deck belts should be replaced every 200 hours of mower operation, or anytime the belts shows sign of wear, cracking, or other damage.

Remove hardware securing the Left/Right Hand Belt cover to the deck.

Caution - The Idler Arm with Idler Pulley are under spring tension. To prevent possible injury, use caution when handling the Idler Arm assembly.

Place a "Breaker Bar" in the square hole provided in the Idler Arm. Carefully push the Idler Arm towards the left hand side, away from discharge opening to relieve tension from the belt. Slip the belt off of the Right hand Spindle Pulley, then carefully release the Idler Arm.

Remove the belt from the Center Spindle Pulley.

Remove the belt from the first fixed Idler Pulley.

Remove the belt from the Left Hand Spindle Pulley.

Remove the belt from the Idler Arm Pulley.

Remove the belt from the Gear Box Pulley.

Remove the belt from the Second Idler Pulley.

Remove the belt from the deck and discard.

4. BELT REPLACEMENT

Route the "backside" of the belt around the fixed Idler Pulley near Gear Box.

Route belt around Gear Box Pulley

Route the belt around the Idler Arm Pulley. The "backside" of the belt will be marking contact with the Arm Pulley.

Route belt around the Left Hand Spindle Pulley.

Route the "backside" of the belt around the fixed Idler Pulley near Center Spindle.

Route belt around the Center Spindle Pulley.

Make certain the belt is properly engaged in each pulley, then place a " Breaker Bar" in the square hole provided in the Idler Arm. Carefully push the Idler Arm towards the left hand side, away from discharge opening the relieve tension. Slip the belt over the Right Hand Spindle Pulley, then carefully release the Idler Arm. Reinstall Right Hand and Left Hand Belt covers to the deck

5. GEAR BOX

Caution - Prior to operation, make sure the gear box contains the correct amount of oil (170g)

If under filled or overfilled, damage to the gear box or personnel injury may result.

The lubricant level should be checked each 24 hours of operation. After the first initial 50 hours of operation, drain the oil and refill to the proper level, Thereafter, oil changes should take place after every 250 hours of operation.

Removed plug located on side of gear box located on the side opposite of the fixed Idler Pulley

Correct oil level is to the center line of th drive shaft

PART ILLUSTRATIONS

GENERAL INFORMATION

Illustrations

The individual parts in their normal relationship to each other. Reference numbers are used in the Illustrations. These numbers correspond to those in the "Number" column and are followed by the quantity required and description.

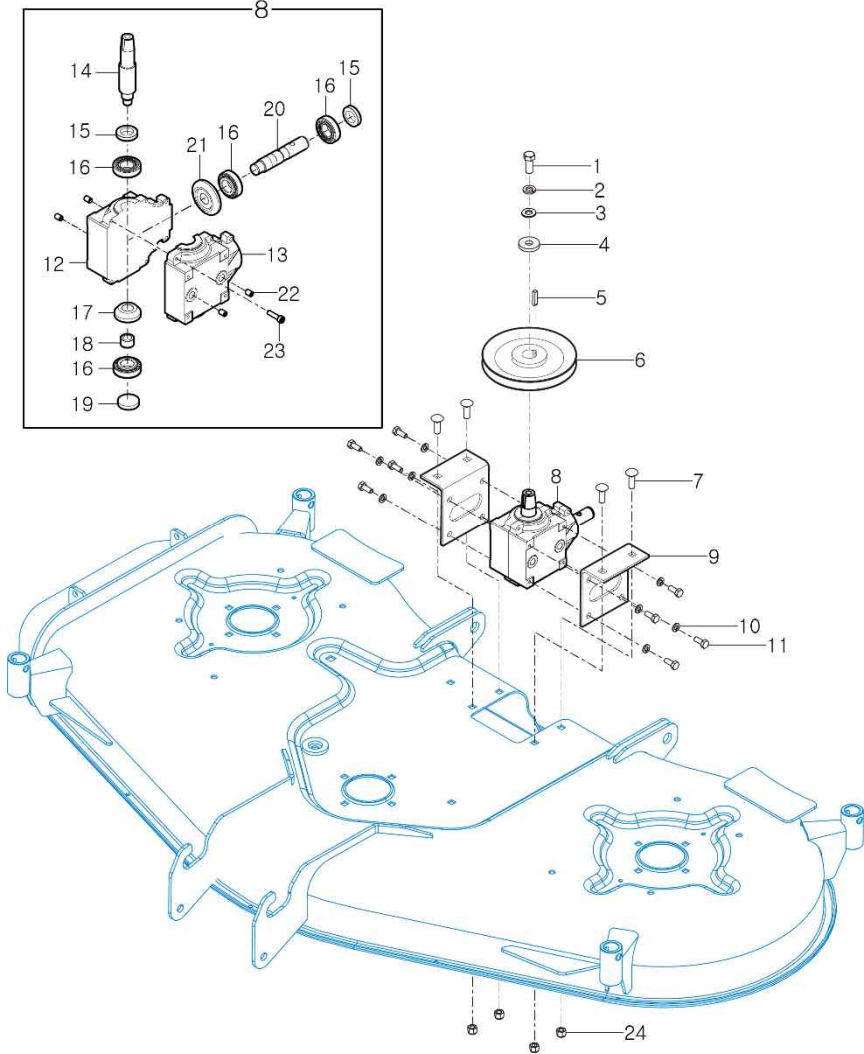
Directional Reference

"Right hand" and "left hand" sides are determined by standing at the rear of the unit and facing in the direction of forward travel.

Part Order

Orders must give the complete description, correct part number, the total amount required, the product model, all the necessary serial numbers, the method of shipment and the shipping address.

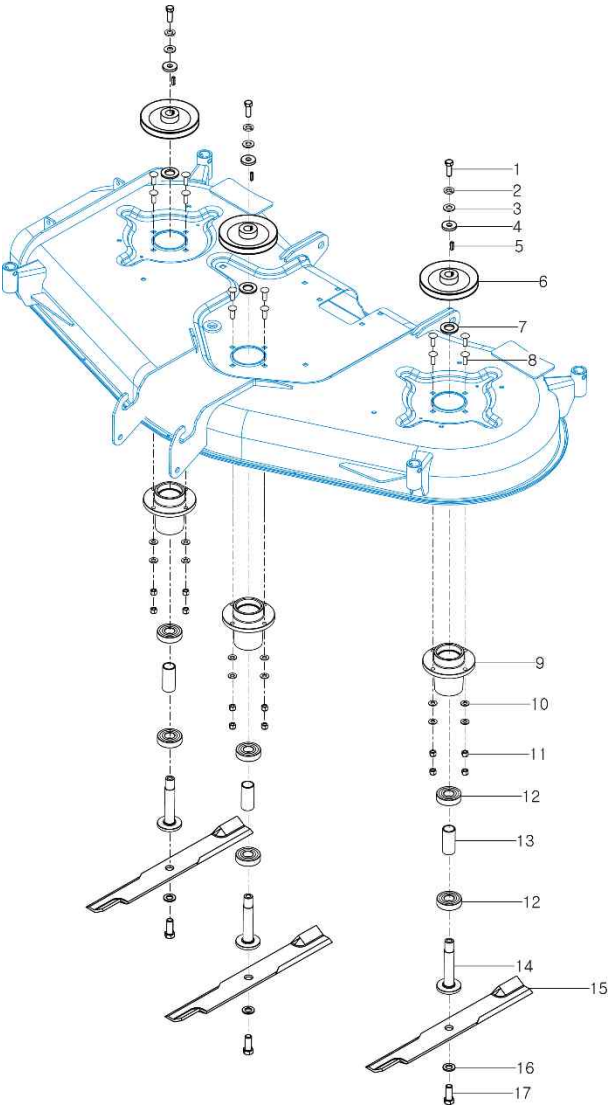
MOWER DECK SERVICE PARTS



MOWER KIT SERVICE PARTS BREAKDOWN

KEY NO.		PART NO.	DESCRIPSTION	SPEC.	QTY.	EFFECTIVE DATE	REMARKS
001	001	V2004612030	BOLT, HEX	M12x30	1		
001	002	V4011600120	WASHER, SPRING	M12	1		
001	003	V4111600120	WASHER, PLAIN	M12	1		
001	004	94002000210	WASHER, Φ 36x6.0T		1		
001	005	94002000230	KEY, 6x6x25		1		
001	006	94002000090	MAIN PULLEY		1		
001	007	94002000151	CARRIAGE BOLT, M10x35	M10x35	4		
001	008	94002001000	GEAR BOX ASS'Y		1		
001	009	94002000040GB	PLATE, GEAR BOX		2		
001	010	V4011600080	WASHER, SPRING	M8	8		
001	011	94002000140	BOLT, 5.16x20-18UNC	5/16x20-18UNC	8		
001	012	94002001100	GEAR CASE LH		1		GEAR BOX ASS'Y
001	013	94002001200	GEAR CASE RH		1		GEAR BOX ASS'Y
001	014	94002001300	SHAFT, OUT		1		GEAR BOX ASS'Y
001	015	V7441254008	SEAL, OIL/S	D25408	2		GEAR BOX ASS'Y
001	016	94002001900	BEARING, TAPER ROLLER	L44643/10	4		GEAR BOX ASS'Y
001	017	94002001600	ST BEVEL GEAR, 21T		1		GEAR BOX ASS'Y
001	018	94002001700	BOSS		1		GEAR BOX ASS'Y
001	019	94002001800	OIL CAP		1		GEAR BOX ASS'Y
001	020	94002001400	SHAFT, IN		1		GEAR BOX ASS'Y
001	021	94002001500	ST BEVEL GEAR, 30T		1		GEAR BOX ASS'Y
001	022	94002001950	BOLT	PT 1/4	4		GEAR BOX ASS'Y
001	023	V2205408030	BOLT, HEX-SOCKET	M8x30	8		GEAR BOX ASS'Y
001	024	85402003130	NYLON NUT, M10	M10	4		

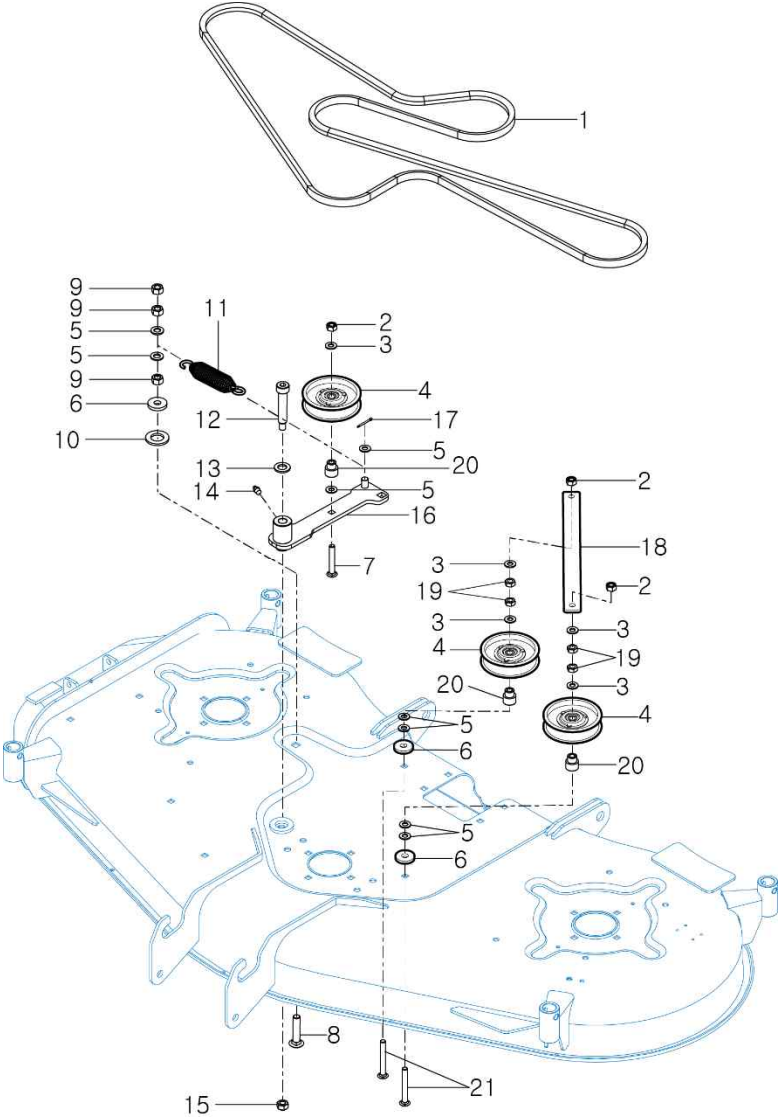
MOWER DECK SERVICE PARTS



MOWER KIT SERVICE PARTS BREAKDOWN

KEY NO.	PART NO.	DESCRIPSTION	SPEC.	QTY.	EFFECTIVE DATE	REMARKS
002	001	V2034612040	BOLT, HEX FINE	M12x40	3	
002	002	V4011600120	WASHER, SPRING	M12	3	
002	003	V4111600120	WASHER, PLAIN	M12	3	
002	004	94002000210	WASHER, $\Phi 36 \times 6.0T$		3	
002	005	94002000240	KEY, 5x5x23		3	
002	006	94002000100	BLADE PULLEY		3	
002	007	94002000800	COLLAR, PULLEY		3	
002	008	94002000151	CARRIAGE BOLT, M10x35	M10x35	12	
002	009	94002000320	HOUSING		3	
002	010	V4111600100	WASHER, PLAIN	M10	12	
002	011	85402003130	NYLON NUT, M10	M10	12	
002	012	V6041506305	BEARING, BALL/HL1	6305HL1DD	6	
002	013	94002000330	BUSH, HOUSING		3	
002	014	94002000310	SHAFT		3	
002	015	94002000080	BLADE PULLEY		3	
002	016	94002000260	BLADE WASHER	17x50x3t	3	
002	017	V2034616035	BOLT, HEX FINE	M16x35	3	

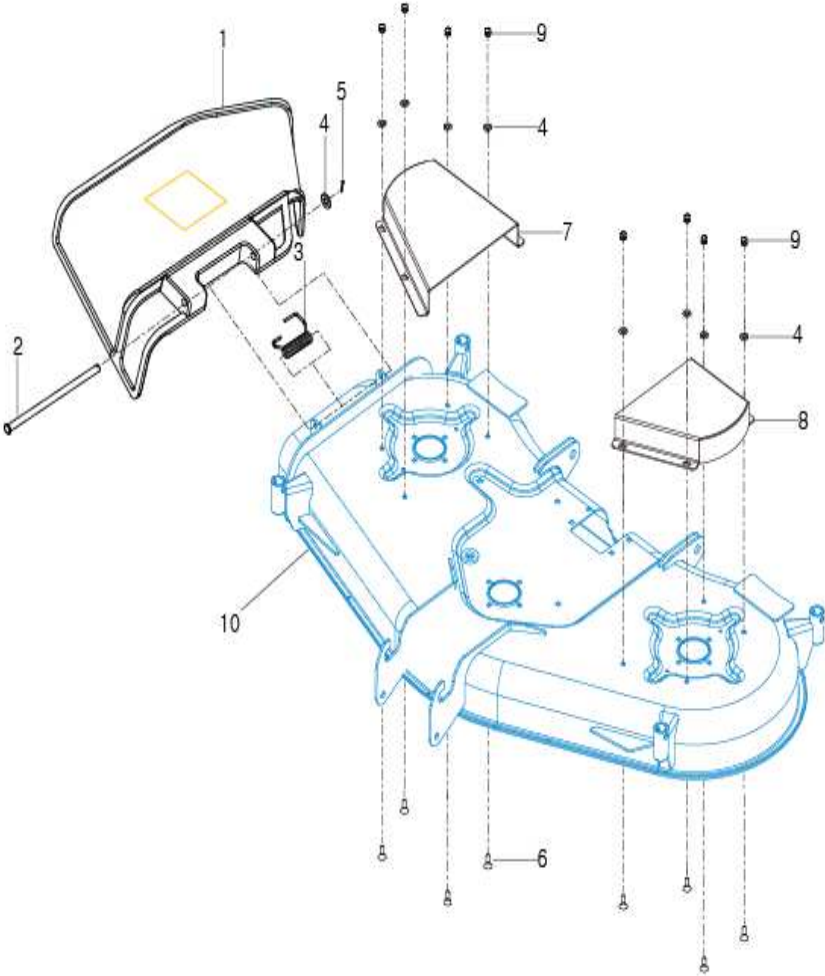
MOWER DECK SERVICE PARTS



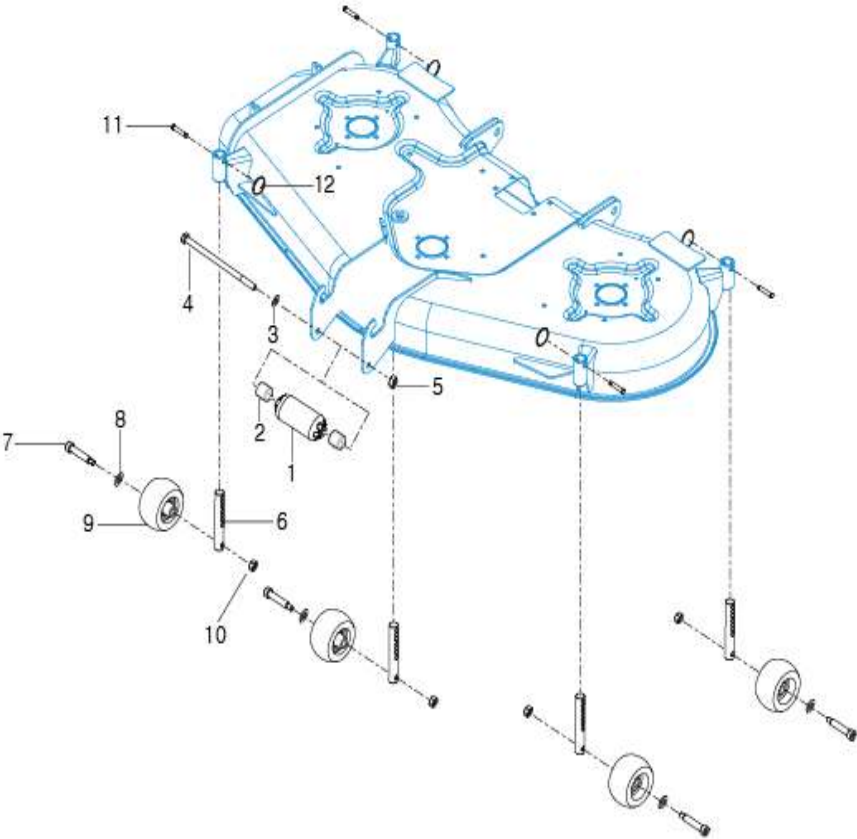
MOWER KIT SERVICE PARTS BREAKDOWN

KEY NO.	PART NO.	DESCRIPSTION	SPEC.	QTY.	EFFECTIVE DATE	REMARKS
003	001	94002000050	V-BELT	LB-133	1	
003	002	85402003130	NYLON NUT, M10	M10	3	
003	003	V4111600100	WASHER, PLAIN	M10	5	
003	004	94002000400	TENSION PULLET ASS'Y		3	
003	005	V4111600120	WASHER, PLAIN	M12	8	
003	006	94002000210	WASHER, $\Phi 36 \times 6.0T$		3	
003	007	94002000171	CARRIAGE BOLT	M10x60	1	
003	008	94002000180	CARRIAGE BOLT	1/2x60	1	
003	009	12624812070	HEX NUT, 1/2-13UNC	1/2-13UNC	3	
003	010	94001004080	FLAT WASHER		1	
003	011	94002000500	SPRING ASS'Y		1	
003	012	94002000120	STRIPPER BOLT		1	
003	013	V4111600160	WASHER, PLAIN	M16	1	
003	014	V7612000000	NIPPLE, GREASE/A-PT	A-PT 1/8	1	
003	015	84200001200	NYLON NUT	M12	1	
003	016	94002006000GB	ARM COMP		1	
003	017	V5001930025	PIN, SPLIT	3x25	1	
003	018	94002006300	SUPPORT BRACKET, PULLEY		1	
003	019	V3013600100	NUT, HEX/2	M10	4	
003	020	94002000420	SHAFT, TENSION PULLEY		3	
003	021	94002000250	CARRIAGE BOLT	M10x80	2	

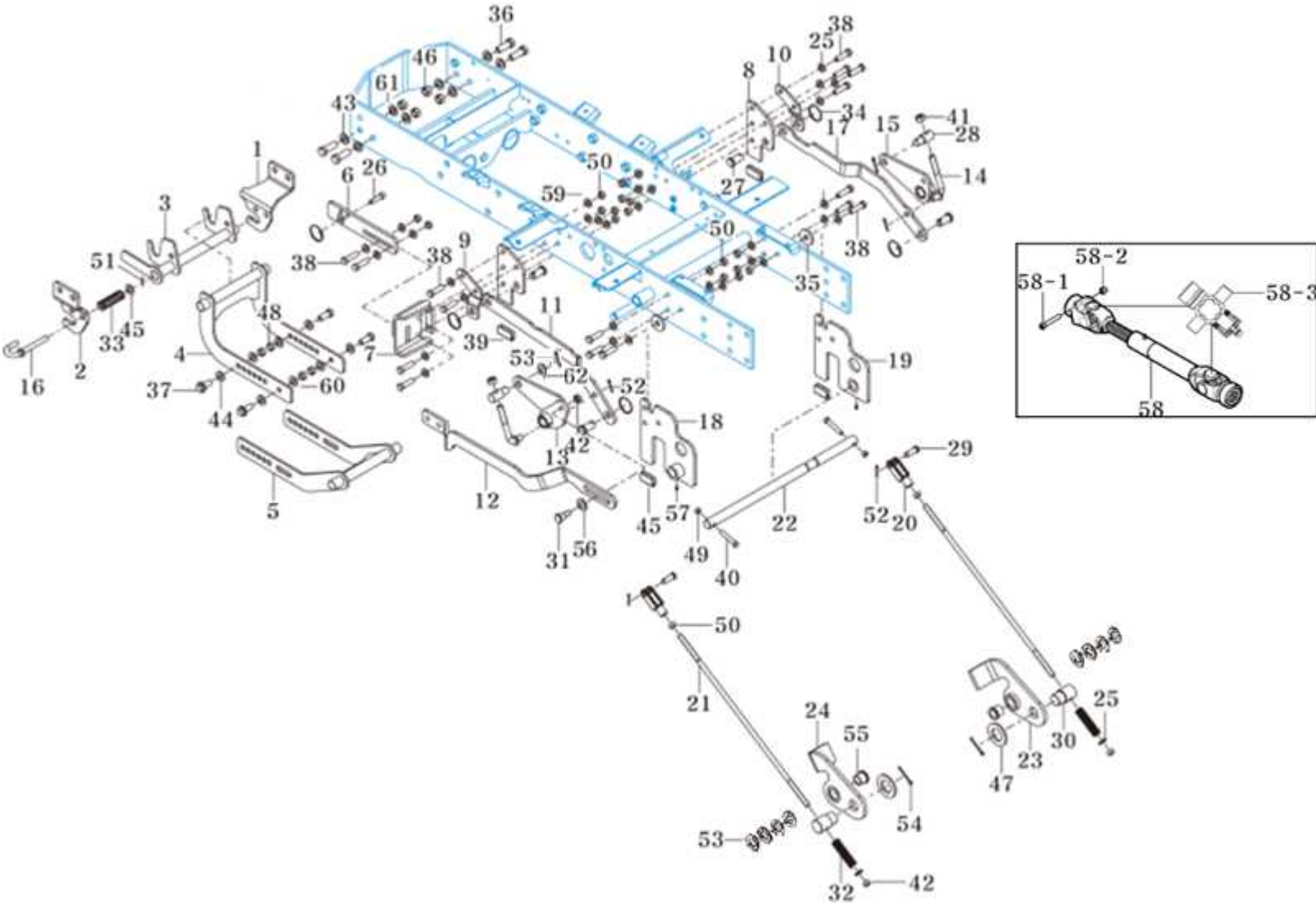
MOWER DECK SERVICE PARTS



MOWER DECK SERVICE PARTS



MOWER DECK SERVICE PARTS



MOWER KIT SERVICE PARTS BREAKDOWN

KEY NO.	PART NO.	DESCRIPTION	SPEC.	QTY.	EFFECTIVE DATE	REMARKS
006	001	94001006040GB		1		
006	002	94001006010GB		1		
006	003	94001006300GB		1		
006	004	94001006400GB		1		
006	005	94001006500GB		1		
006	006	94001001010GB		1		
006	007	94001001300GB		1		
006	008	94001001210GB		2		
006	009	94001001020GB		1		
006	010	94001001030GB		1		
006	011	94001001110GB		1		
006	012	94001001100GB		1		
006	013	94001004200GB		1		
006	014	94001004600		2		
006	015	94001005200GB		1		
006	016	94001006600		1		
006	017	94001002110GB		1		
006	018	94001004100GB		1		
006	019	94001005100GB		1		
006	020	94001000400		2		
006	021	94001004020		2		
006	022	94001003010		1		
006	023	94001005330GB		1		
006	024	94001004330GB		1		
006	025	V4111600120	M12	17		
006	026	94001001160		1		
006	027	94001001130		4		
006	028	94001004040		2		
006	029	94001004050		2		
006	030	94001004060		2		
006	031	94001004030		1		

MOWER KIT SERVICE PARTS BREAKDOWN

KEY NO.	PART NO.	DESCRIPTION	SPEC.	QTY.	EFFECTIVE DATE	REMARKS
006	032	94001004070	SPRING , 3P	2		
006	033	36714930020	SPRING , HC113	1		
006	034	16735240060	SPRING 45	5		
006	035	94001004080	FLAT WASHER	2		
006	036	V2004616045	BOLT , HEX	M16X45	4	
006	037	V2004614035	BOLT , HEX	M14X35	4	
006	038	V2004612045	BOLT , HEX	M12X45	15	
006	039	94001001220	RUBBER	2		
006	040	V2004610055	BOLT , HEX	M10X55	2	
006	041	86402000140	NYLON NUT	M14	2	
006	042	84200001200	NYLON NUT	M12	3	
006	043	V4111600160	WASHER , PLAIN	M16	4	
006	044	V4111600140	WASHER , PLAIN	M14	5	
006	045	94001004130	RUBBER	2		
006	046	V3013600160	NUT , HEX/2	M16	4	
006	047	94001004090	WASHER	M32	2	
006	048	V3013600140	NUT , HEX/2	M14	4	
006	049	V3013600100	NUT , HEX/2	M10	2	
006	050	V3013600120	NUT , HEX/2	M12	17	
006	051	V5001920025	PIN , SPLIT	2X25	1	
006	052	V5001940030	PIN , SPLIT	4X30	6	
006	053	V4111600220	WASHER , PLAIN	M22	8	
006	054	V5001950045	PIN , SPLIT	5X45	2	
006	055	94001004350	BUSH		2	
006	056	V4111600180	WASHER , PLAIN	M18	1	
006	057	V7611500000	NIPPLE , GREASE/A-PT	A-PT1/8	2	
006	058	93801009990	UNIVERSAL JOINT ASS'Y		1	
006	058-1	V2205408050	BOLT , HEX-SOCKET	M8X50	1	
006	058-2	84200000230	NYLON NUT	M8	1	
006	058-3	94001009100	BEARING KIT		2	
006	059	V4011600120	WASHER , SPRING	M12	15	
006	060	V4011600140	WASHER , SPRING	M14	4	
006	061	V4011600160	WASHER , SPRING	M16	4	
006	062	V4111600200	WASHER , PLAIN	M20	2	

MM60R

OPERATOR'S MANUAL FOR MID MOWER

CODE NO.

9400-800-100-0

Printed on Feb. 2020

1st EDITION

TYM TONGYANG MOOLSAN CO., LTD.

7-40, Wanggungnonggongdanji-gil,

Wanggung-myeon, Iksan-si, Jeollabuk-do , Korea

TEL : 82-063-830-2000