



Tebben Enterprises - 10009 Highway 7 SE - Clara City, Minnesota 56222

LAND ROLLER

OPERATORS MANUAL AND PARTS BOOK

PART NUMBER
53-TR10



MODELS: TR7 / TR12 / TR15 / TR17 / TR21 / TR31 / TR33 / TR41 / TR42 / TR45 / TR52

1-31-2013



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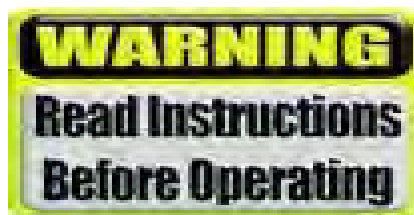
WARRANTY

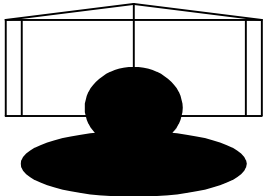

Tebben Enterprises of Clara City, Minnesota 56222, warrants that its products and their components will be free from defects in material and workmanship for a period of one (1) year from the date of original purchase when used as intended and under normal service and conditions. This warranty is limited to the replacement of any defective part by **Tebben Enterprises**, provided that any such defective part must be returned to **Tebben Enterprises**, TRANSPORTATION PREPAID, accompanied by a letter setting forth the nature of the defect. If the part is found to be defective by reason of materials or workmanship, **Tebben Enterprises**, shall replace the part, but shall not be responsible for its re-installation.

This warranty does not cover or apply to any products or component parts which have been tampered with, modified or altered in any way or which have been subject to misuse, negligence, involved in an accident, or damaged by and act of God.

EXCLUSION OF WARRANTIES

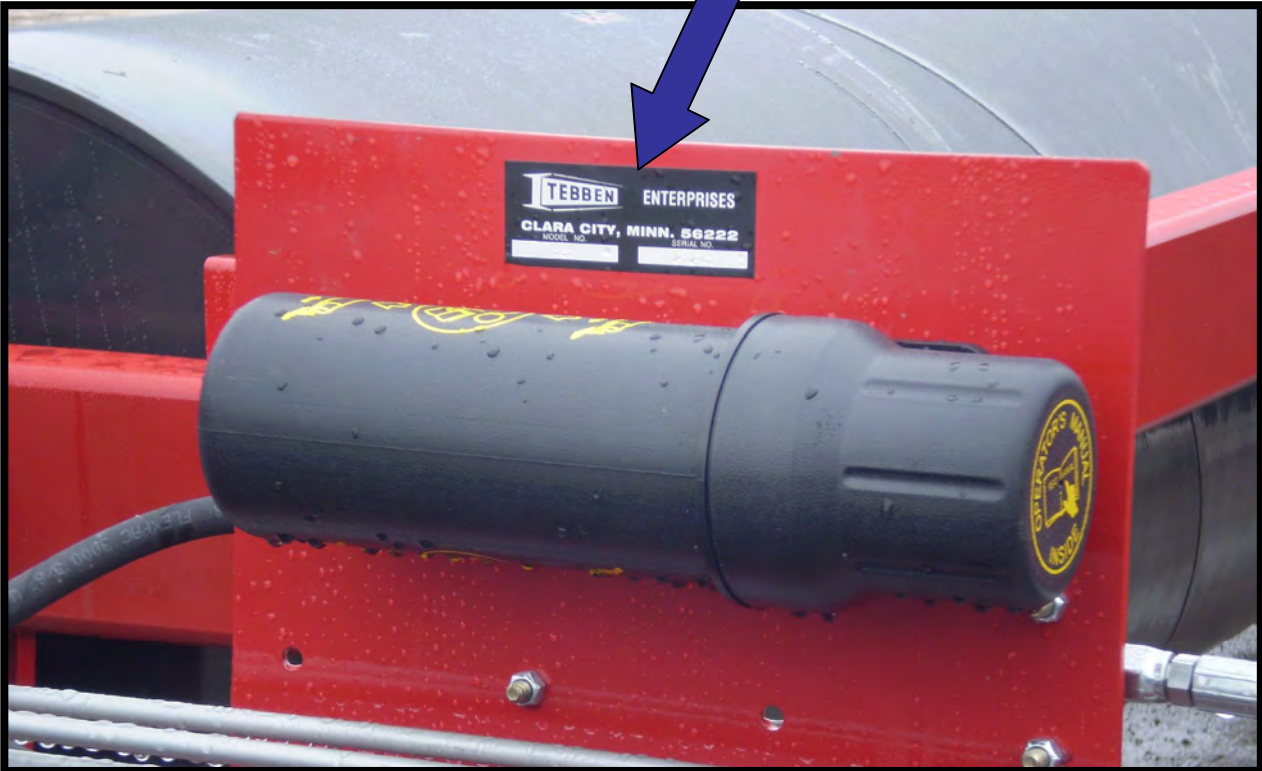
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	 WARNING
	<p>To prevent serious injury or Death</p> <ul style="list-style-type: none">•Avoid unsafe operation or maintenance.•Do not operate or work on this machine without reading and understanding the operators manual.•If manual is lost, contact your nearest dealer for a new manual.

Serial Number Location

Always give your dealer the serial number of your Tebben Land Roller when ordering parts or requesting service or other information. The serial number plate is located where indicated. Please mark the number in the space provided for easy reference.



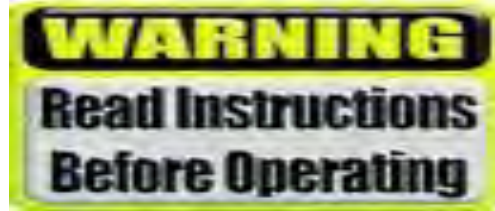
Model Number _____
Serial Number _____

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INTRODUCTION

Congratulations on your choice of a Tebben Land Roller to use in your farming operation. Please use this manual by reading and understanding your Tebben Land Roller before operation.



This manual covers the Tebben Land Roller models TR31, TR33, TR41, TR42, TR45 and TR52. Use the Table of Contents as a guide to locate required information.

OPERATOR ORIENTATION – The directions left, right, front, and rear as mentioned through this manual, are seen from the drivers seat and facing in the direction of travel.

! SAFETY!

SAFETY ALERT SYMBOL



This safety alert symbol means
ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

The safety alert symbol identifies important safety messages on the Tebben Land Roller and in the manual. When you see this symbol be alert to the possibility of personal injury or death. Follow the instructions in the safety message.

Why is SAFETY important to you?

Accidents Disable and kill

Accidents Cost

Accidents can be Avoided

SIGNAL WORDS:

Note the use of the signal words DANGER, WARNING and CAUTION with the safety messages. The appropriate signal word for each message has been selected using the following guidelines:

DANGER – An immediate and specific hazard, which WILL result in severe personal injury or death if proper practices are not taken.

WARNING – A specific hazard or unsafe practice, which COULD result in severe personal injury or death if proper practices are not taken.

CAUTION – Unsafe practices which COULD result in personal injury if proper practices are not taken, or as a reminder of good safety practices.

SAFETY



YOU are responsible for the SAFE operation and maintenance of your Tebben Land Roller. YOU must ensure that you and anyone else who is going to operate, maintain or work around the Land Roller be familiar with the operating and maintenance procedures and related SAFETY information contained in this manual. This manual will take you step-by-step through your working day and alerts you to all good safety practices that should be adhered to while operating the Land Roller. Remember, YOU are the key to safety. Good safety practices not only protect you but also the people around you. Make these practices a part of your safety program. Be certain that EVERYONE operating this equipment is familiar with the operating and maintenance procedures and follows all recommended safety precautions. Most accidents may be prevented. Do not risk injury or death by failing to ignore good safety practices.

- Land Roller owners must give operating instructions to operators or employees before allowing them to operate the Land Roller, and at least annually thereafter per OSHA (Occupational Safety and Health Administration) Reg. 1928.57.
- The most important safety device on this equipment is a SAFE operator. It is the operator's responsibility to read and understand ALL safety and operating instructions in the manual and to follow these. All accidents can be avoided.
- In addition to the design and configuration of equipment, hazard control, and accident prevention are dependent upon the awareness, concern, prudence and proper training of personnel involved in the operation, transport, maintenance, and storage of equipment. Train all new personnel and review instructions frequently with existing workers. A person who has not read and understood all operating and safety instructions is not qualified to operate the machine. An untrained operator exposes himself and bystanders to possible serious injury or death.
- Do not modify the equipment in any way. Unauthorized modification could impair the function and/or safety and could affect the life of the equipment.
- Think SAFETY! Work SAFELY!



This safety alert symbol means **ATTENTION! BECOME ALERT!**
YOUR SAFETY IS INVOLVED!

GENERAL SAFETY

1. Read and understand the Operator's Manual and all safety signs before operating, maintaining, or making any adjustments to your Land Roller.
2. Have a first-aid kit available for use should the need arise and know how to use it.
3. Have a fire extinguisher available for use should the need arise and know how to use it.
4. Wear appropriate protective gear. This lists includes but is not limited to:
 - A hard hat
 - Protective shoes with lip resistant soles
 - Protective goggles, glasses or face shield
 - Heavy gloves
 - Protective clothing
5. Install and secure all guards before starting.
6. Do not allow riders
7. Wear suitable ear protection for prolonged exposure to excessive noise.
8. Place all controls in neutral, stop tractor engine, set parking brake, remove ignition key, and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
9. Clear the area of people, especially small children, before starting the unit.
10. Review safety related items annually with all personnel who will be operating or servicing the Land Roller.

OPERATING SAFETY

1. Read and understand the operator's manual and all safety signs before operating, maintaining, adjusting or servicing this equipment.
2. Do not allow persons to ride on machine.
3. Install all necessary transport locks before transporting your Land Roller.
4. Keep hands, feet and clothing away from moving parts.
5. Place all controls in neutral, stop tractor engine, set parking brake, remove ignition key, and wait for all moving parts to stop before servicing, adjusting or repairing the Land Roller.
6. Place all tractor and machine controls in neutral before starting.
7. Never start or operate machine unless sitting on tractor seat.
8. Clear area of bystanders, especially small children, before starting.
9. Clean reflectors, SMV sign and lights before transporting.
10. Use hazard flashers on tractor when transporting.
11. Do not put hands or feet under machine while tractor engine or machine is running.
12. Review safety instructions with all operators annually.

MAINTENANCE SAFETY

1. Follow all the operating, maintenance and safety information in this manual.
2. Block Land Roller before attempting any maintenance.
3. Follow good shop practices, keep service area clean and dry, be sure electrical outlets and tools are properly grounded, use adequate light for the job.
4. Use only tools, jacks and hoists of sufficient capacity for the job.
5. Make sure all transport locks are in place and properly secured before transporting your Land Roller.

TRANSPORT SAFETY

1. Make sure you are in compliance with all local regulations regarding transporting equipment on public roads and highways.
2. Make sure the SMV (Slow Moving Vehicle) sign, the lights and reflectors that are required by the local highway and transport authorities are in place, are clean, are in proper working order and can be seen clearly by all overtaking and oncoming traffic.
3. Do not allow ANYONE to ride on the Land Roller or tractor during transport.
4. Do not exceed 20 mph (32kmp). Reduce speed on rough roads & surfaces.
5. Always use hazard flashers on tractor when transporting unless prohibited by law.

STORAGE SAFETY

1. Store unit in an area away from everyday human activity.
2. Do not permit children to play on or around the stored machine.
3. Block wheels or rollers to prevent unit from rolling.

SAFETY DECAL INSTALLATION

1. Keep safety decals and SMV sign clean and legible at all times.
2. Replace safety decals that are missing or have become illegible.
3. Replaced decals should display the same information as original decals.
4. Safety decals and SMV signs are available from your dealer parts dept. or the factory in which the Land Roller was produced.

How to Install Safety Decals:

- Be sure the area in which the decal will be placed is clean and dry.
- Decide on the exact position before you remove the backing paper.
- Remove the smallest portion of the backing paper when possible.
- Align the decal over the specified area and carefully press the small portion with exposed sticky backing in place.
- Slowly peel back the remaining paper and smooth the remaining portion of the decal in place.
- Small air pockets can be pierced with a pin and smoothed out using a piece of decal backing paper.

GENERAL SAFETY SUGGESTIONS

1. Read operators manual completely before operating Land Roller.
2. Study all safety decals on Land Roller.
3. Most accidents occur because of neglect or carelessness.
4. Only the operator should be on the tractor during operation.
5. Connect the Land Roller to the tractor before operating hydraulics. Be cautious of hydraulic oil leaks.
6. Always throttle the tractor down and use caution in attaching the Land roller to the tractor. Never stand between the implement and the tractor.
7. Be extremely cautious when unhooking tractor from the Land Roller. The front and the back of the tires in the center frame should be blocked to prevent it from rolling. Make sure screw jack is lowered onto firm ground.
8. Exercise extreme caution when working on hillsides or near ditches.
9. The tractor drawbar should be pinned during transport. The maximum speed while transporting the Land Roller should be no more than 20 MPH.
10. Proceed carefully when performing maintenance on the Land Roller. The roller should be on the ground; however, if the nature of the work requires that the Land Roller is in the raised position, be sure the transport locks are placed in the transport position.
11. Keep hands and feet from underneath the Land Roller during adjusting procedures.
12. Leave the Land Roller lowered to the ground when not in use.
13. Follow all laws and regulations while transporting your Land Roller on public roads or highways.

SIGN-OFF FORM

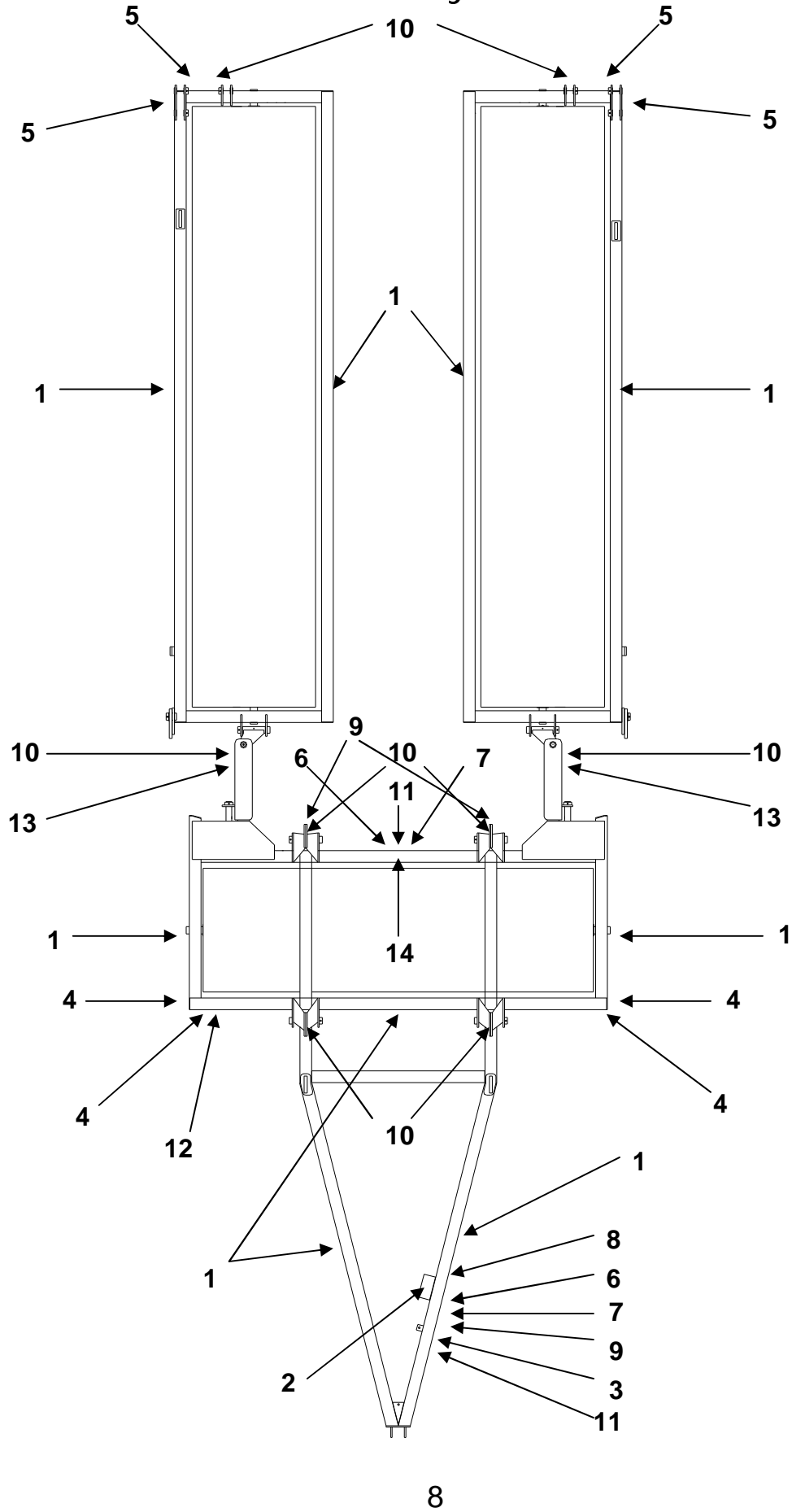
Tebben Enterprises follows the general safety standards specified by the American Society of Agricultural Engineers (ASAE) and the Occupational Safety and Health Administration (OSHA). Anyone who will be operating and/or maintaining the Land Roller must read and clearly understand ALL Safety, Operating, and Maintenance information presented in this manual.

Do not operate or allow any one else to operate this equipment until such information has been reviewed. Annually review this information before the season start-up. Make these periodic reviews a SAFETY and OPERATION a standard practice for all your equipment. We feel that an untrained operator is unqualified to operate this machine.

A sign-off sheet is provided for your record keeping to show that all personnel who will be working with the equipment have read and fully understand the information in the Operator's Manual and have been instructed in the operation of the equipment.

DATE	EMPLOYEES SIGNATURE	EMPLOYERS SIGNATURE

LAND ROLLER safety DECAL Locations



LAND ROLLER SAFETY DECALS & PART NUMBERS



<u>Ref.</u>	<u>Part No.</u>	<u>Description</u>	<u>Qty</u>
1	53-4052	Tebben Decal	9
2	53-4089	Numbers Decal	2
3	53-4048	Caution Decal	1
4	53-4053	White Reflector	4
5	53-4054	Red Reflector	4
6	53-4049	Warning – Block Comp.	2
7	53-4091	Caution – Fluid Hazard	2
8	53-4095	Fema Decal	1
9	53-4098	Attention	3
10	53-4050	Grease Decal	8
11	53-4093	Important – Block Wheels	2
12	53-4110	Made in the USA Decal	2
13	53-4088	Warning, Tighten Wheel Bolts	2
14	53-4097	Serial Number Decal	1

OPERATING INSTRUCTIONS

- ALWAYS CHOOSE A LEVEL AREA TO EITHER FOLD OR UNFOLD THE LAND ROLLER INTO OR OUT OF TRANSPORT POSITION.
- THE LAND ROLLER SHOULD BE LOWERED TO THE GROUND BEFORE UNHOOKING FROM THE TRACTOR OR BLOCK WHEELS.

TRANSPORTING YOUR LAND ROLLER TO AND FROM THE FIELD

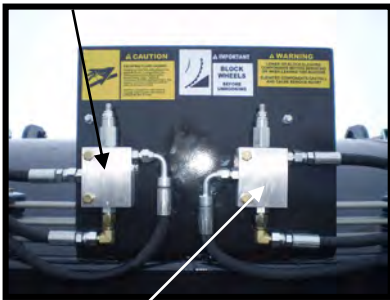
FOLLOW THESE STEPS WHEN ARRIVING TO THE FIELD.

WHEN ARRIVING AT THE FIELD:

1. MAKE SURE YOU HAVE ADEQUATE ROOM TO UNFOLD YOUR UNIT.
2. EXTEND CYLINDERS TO REMOVE TRANSPORT LOCKS, USING SET OF HOSES IN HOSE HOLDER SLOT NUMBER ONE.

NOTE: THE TEBBEN LAND ROLLER IS DESIGNED TO SEQUENCE BOTH THE REAR STEERING CYLINDERS AND THE FIELD LOCK CYLINDERS, USING SET OF HOSES IN HOSE HOLDER SLOT NUMBER TWO.

Sequences
Field Lock
Cylinders



IMPORTANT: Rear Steering Wheels Sequence 1st and Field Locks Sequence 2nd. Adjust Valves To Sequence.

IMPORTANT: Rear steering wheels should always be turned fully before the field lock cylinders begin to move.

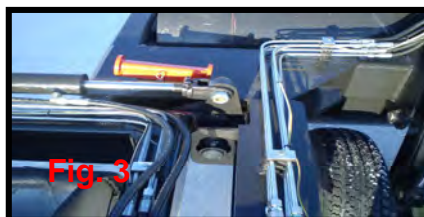
Picture on the left shows the sequencing valves.

Sequences
Rear Steering
Cylinders

3. TO UNFOLD WINGS, FIRST TURN REAR STEERING WHEELS, **SEE FIG. 1** (NOTE: WHEELS SHOULD BE FULLY TURNED WHEN THE FIELD LOCK CYLINDERS BEGIN TO EXTEND) & THEN PROCEED TO BACK UP UNTIL WINGS ARE UNFOLDED AND ARE IN LOCKING POSITION. **SEE FIG. 2**



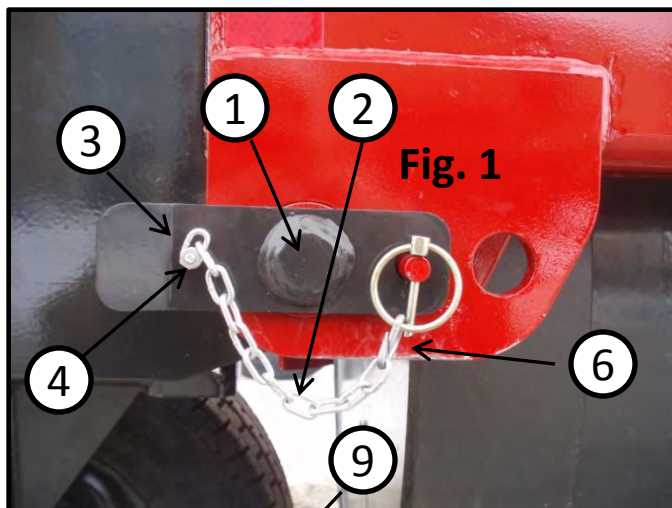
4. LOCK WINGS INTO PLACE BY EXTENDING FIELD LOCK CYLINDERS FULLY. **SEE FIG. 3**



5. LOWER UNIT TO THE GROUND BY RETRACTING WHEEL CYLINDERS COMPLETELY.
6. UNIT IS NOW READY FOR USE IN THE FIELD.

LAND ROLLER REAR WHEEL LOCKING MECHANISM

To ensure safe travel while transporting your Land Roller, make sure pins are locked in transport position (**see fig. 1**) while transporting your Land Roller to and from the field.



<u>Part No.</u>	<u>Description</u>
1. 53-2179	Locking Pin
2. 53-5007	Chain
3. 53-5004	Bolt
4. 53-5006	Nut
5. 53-5002	¼" Lynch Pin
6. 53-5003	Hog Ring Clip
7. 53-2179A	Locking Pin Assy. Complete (please specify whether chain or cable)
8. 53-5011	½ x ½ 3/8 skt shldr screw
9. 53-5012	5/16 Flat Washer
10. 53-5013	½ Flat Washer

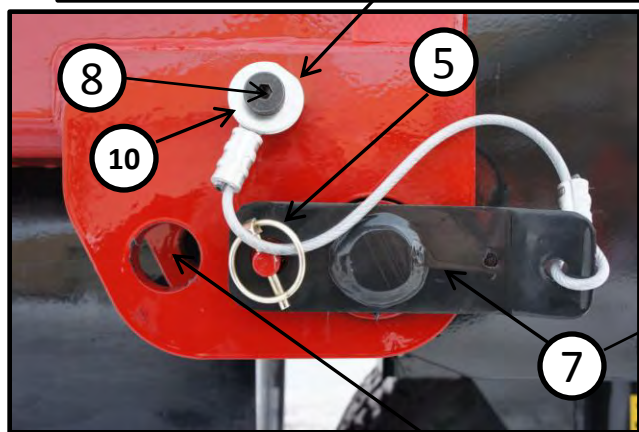


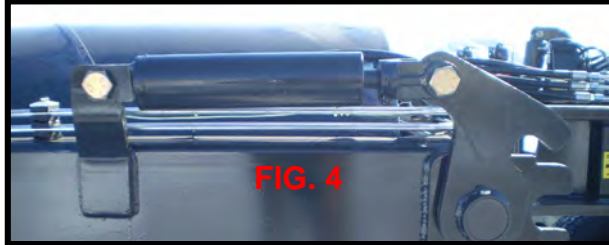
Fig. 2

Once you arrive to the field, extend rear wheel cylinders to remove transport pins. Once pins are removed, place in storage hole (**see fig 2**) now you are ready to lower your unit into field position.

FOLLOW THESE STEPS BEFORE LEAVING THE FIELD.

FIELD WORK COMPLETED:

1. **UNLOCK FIELD LOCKS TO FOLD INTO TRANSPORT POSITION. (NOTE: REAR STEERING WHEELS WILL BEGIN TO TURN STRAIGHT ONCE FIELD LOCK CYLINDERS ARE FULLY RETRACTED.) SEE FIG. 4**



2. **IMPORTANT TURN REAR STEERING WHEELS COMPLETELY STRAIGHT BEFORE LOWERING WHEEL ASSY'S. SEE FIG. 5**



3. **LOWER LANDING GEAR AND REAR STEERING WHEEL ASSEMBLIES UNTIL CYLINDERS ARE FULLY EXTENDED.**
4. **PROCEED TO DRIVE FORWARD FOLDING WINGS INTO TRANSPORT POSITION.**
5. **BEFORE PUTTING TRANSPORT LOCKS ONTO CYLINDERS MAKE SURE ALL WHEEL CYLINDERS ARE FULLY EXTENDED.**
6. **POSITION TRANSPORT LOCKS INTO CYLINDERS FOR TRANSPORTING. SEE FIG. 6**



FIG. 6 SHOWS TRANSPORT LOCKS IN THE TRANSPORT POSITION.

7. **YOUR LAND ROLLER IS NOW READY TO BE TRANSPORTED.**

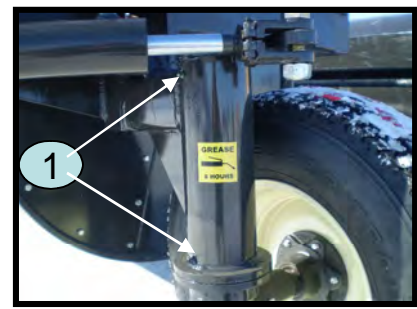
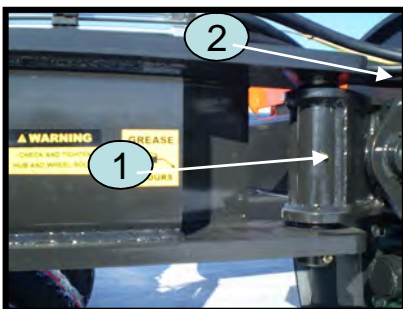
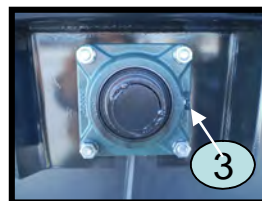
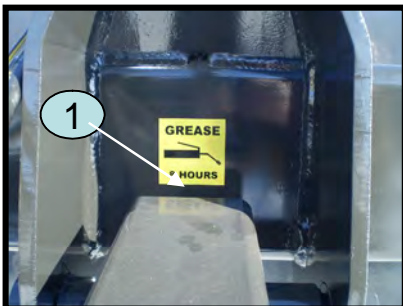
SERVICE AND MAINTENANCE



MAINTENANCE SAFETY

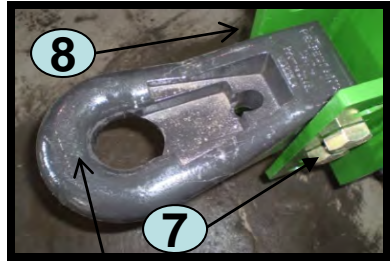
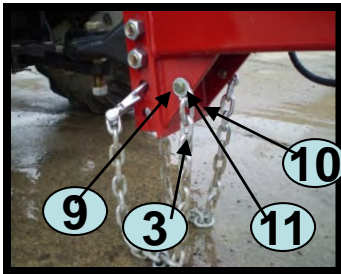
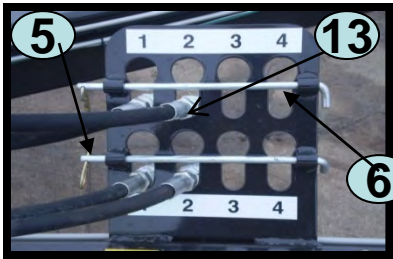
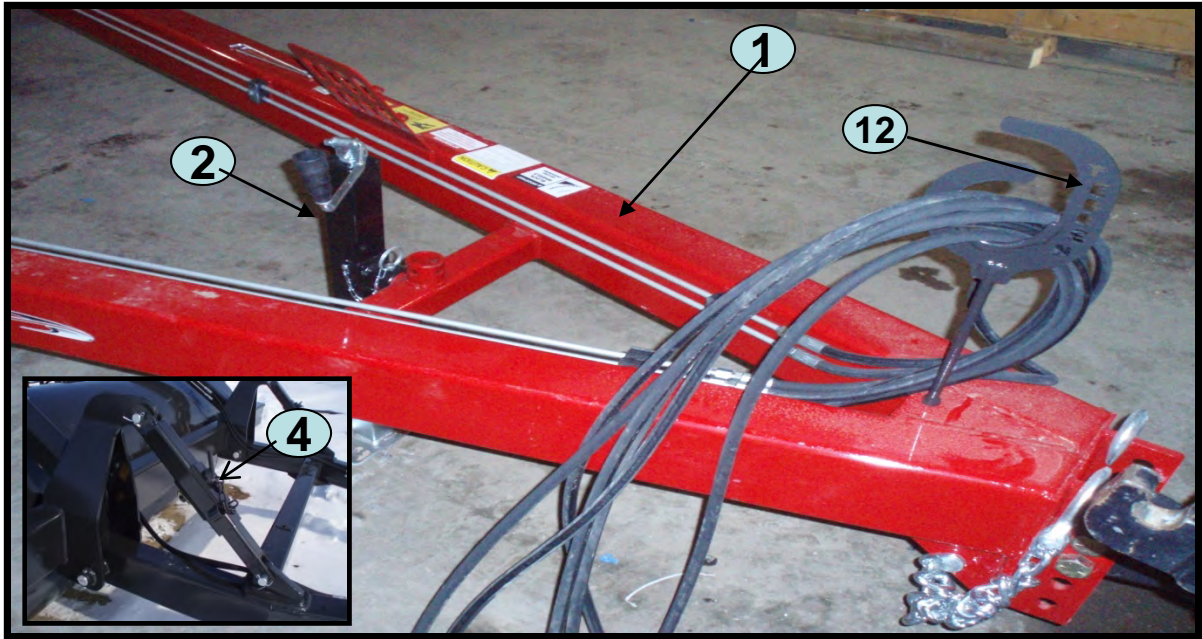
1. Follow all the operating, maintenance and safety information in the manual.
2. Support the machine with blocks or safety stands when working beneath it.
3. Follow good shop practices, keep service area clean and dry. Be sure electrical outlets and tools are properly grounded. Use adequate light for the job at hand.
4. Use only tools, jacks and hoists of sufficient capacity for the job.
5. Make sure all transport locks are in the transport position when working on your Land Roller in the raised position.
6. Keep hands, feet and clothing away from moving parts.
7. Clear area of bystanders, especially small children when carrying out any maintenance and repairs or making any adjustments to your machine.

GREASE LOCATIONS



<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Qty</u>
1	53-10H35	Grease Fitting, Straight	10
2	53-4047	Grease Fitting, 65 Degree	2
3	53-4245	Grease Fitting, Straight	6

LAND ROLLER TONGUE ASSEMBLY



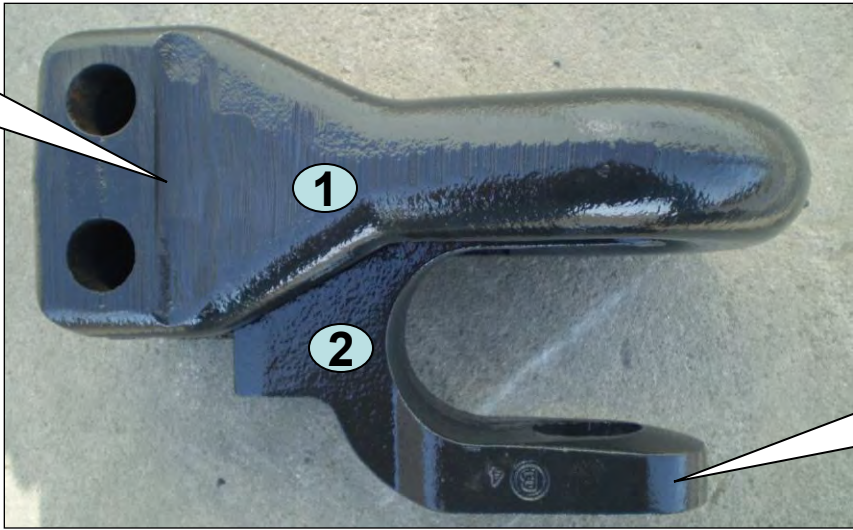
See page 14 For Reference

<u>Ref. #</u>	<u>Part #</u>	<u>Description</u>	<u>Qty</u>
1	53-3000	Hitch Frame	1
2	53-4005	Jack Stand	1
3	53-4012	Safety Chain	2
4	53-4010	Tongue Slide Bracket	2
5	53-4099	Hairpin	2
6	53-1091	Rod	2
7	53-17C1696	1-8 X 6 Hex Cap 8NC	2
8	53-85D16	1-8 NC#8 Top Lock Nut	2
9	53-17C824	½-13 x 1-1/2 Hex Cap 8NC	2
10	53-81D8	½-13 Hex Nut, Center Lock	2
11	53-25E22	½ Flat Washer	2
12	53-3010	Hose Holder	1
13	53-4011	Male Quick Coupler – NPT	4
	53-4011-1	Male Quick Coupler – O’ring	4

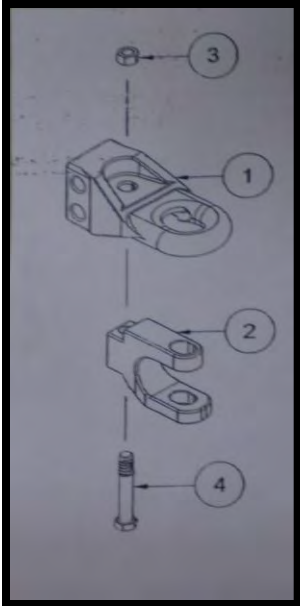
BASE PERFECT HITCH ASSEMBLY

This implement is equipped with a “BASE PERFECT HITCH”

**Base Perfect Hitch
53-4013**



**Clevis Option
53-PHC**



<u>ITEM NO.</u>	<u>PART NO.</u>	<u>DESCRIPTION</u>	<u>Qty</u>
1.	53-4013	Base Perfect Hitch	1
2.	53-PHC	Clevis Option	1
3.	53-4273	3/4" Hex Nut, Center lock 8NC ZC	1
4.	53-4272	3/4 x 5-1/2 Hex Cap 8NC ZC	1

PART # 53-85D16 (2)

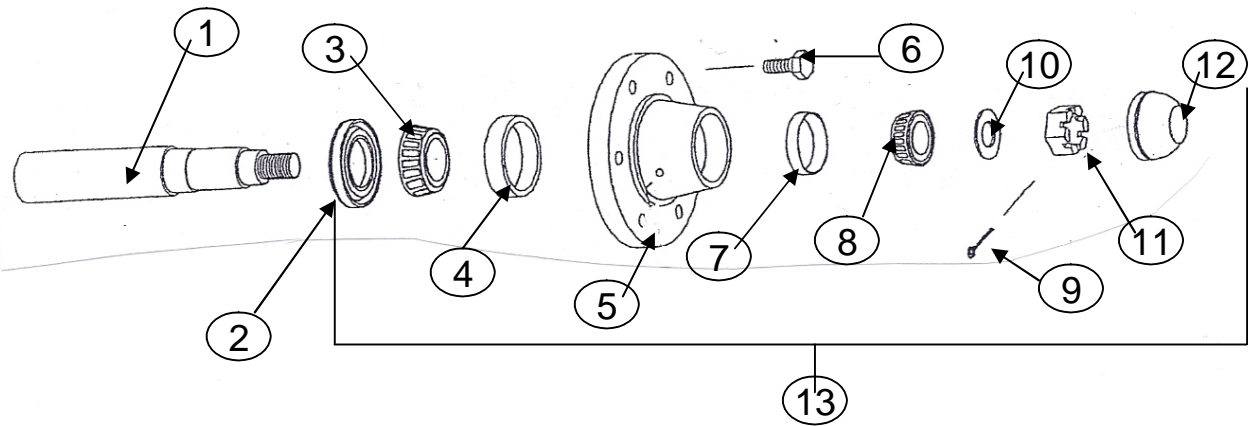
PART # 53-17C1696 (2)



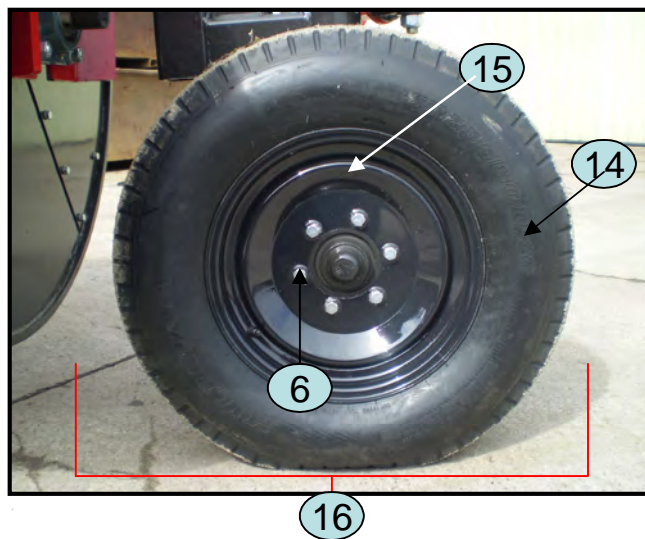
Picture 1 – Base Hitch (53-4013)

Picture 2 – Clevis Opt. (53-PHC)

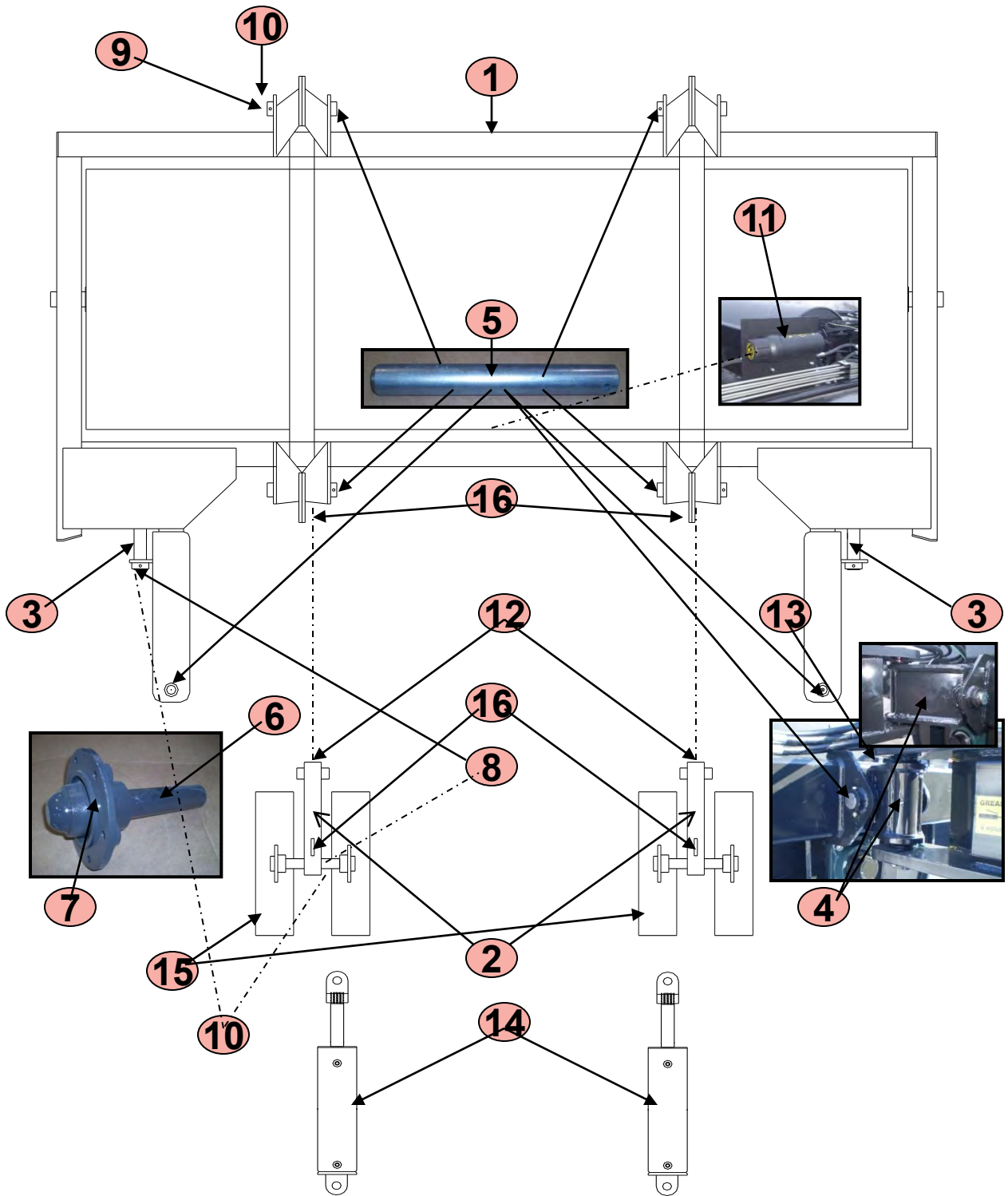
HUB ASSEMBLY BREAKDOWN



<u>Ref. #</u>	<u>Part #</u>	<u>Description</u>
1	53-4008	Spindle
2	53-4160	Seal
3	53-4161	Inner Cone Bearing
4	53-4162	Inner Cup
5	53-4163	Hub
6	53-4164	Bolt
7	53-4165	Outer Cup
8	53-4166	Outer Cone Bearing
9	53-4167	Cotter Pin
10	53-4168	Washer
11	53-4169	Slotted Hex Nut
12	53-4170	Dust Cap
13	53-4125	Hub Assy. Complete
14	53-4190	Tire
15	53-4195	Wheel – 16x6x6
16	53-4000	Tire & Wheel Assy.



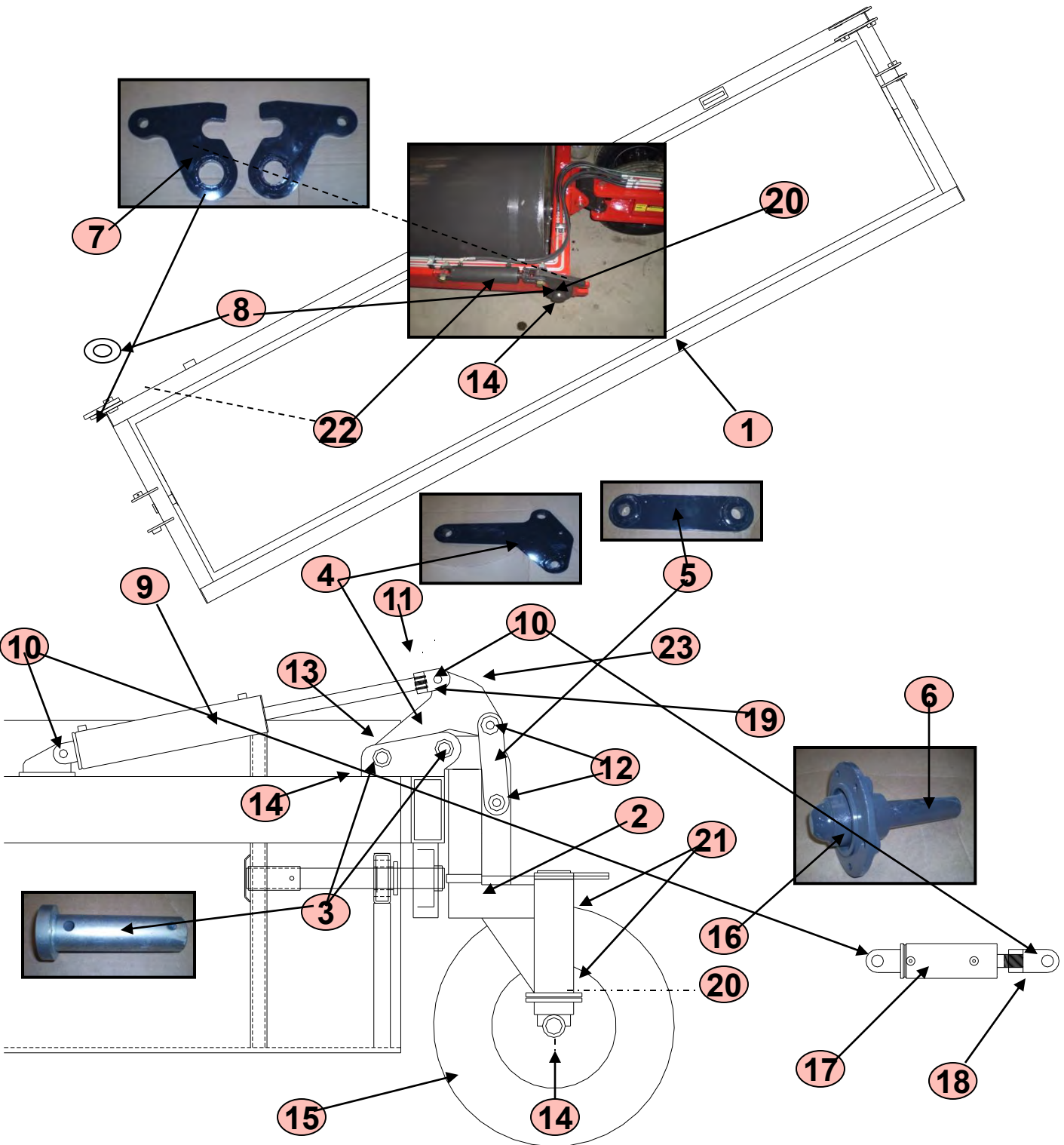
CENTER FRAME & CENTER AXLE ASSEMBLY



CENTER FRAME & CENTER AXLE ASSEMBLY

<u>Ref. #</u>	<u>Part #</u>	<u>Description</u>	<u>Qty</u>
1	53-3100	Main Frame	1
2	53-3300	Axle Arm	2
3	53-1047	Pin	2
4	53-3520	Pivot Weldment	2
5	53-1086	Pin	8
6	53-4008	Spindle	4
7	53-4125	Hub Assy Complete	4
8	53-1C652	3/8-16x3-1/4 Hex Cap 5NC	6
9	53-1C648	3/8-16x2-3/4 Hex Cap 5NC	8
10	53-85D6	3/8-16 Nut, Top Lock 5NC	14
11	53-01-473	Operators Manual Holder	1
12	53-10H35	Grease Fitting Straight	4
13	53-4047	Grease Fitting 65 Degree	2
14	53-4002	4" X 12" Cylinder	2
15	53-4000	Wheel & Tire	4
16	53-1040	Cylinder Pin	4

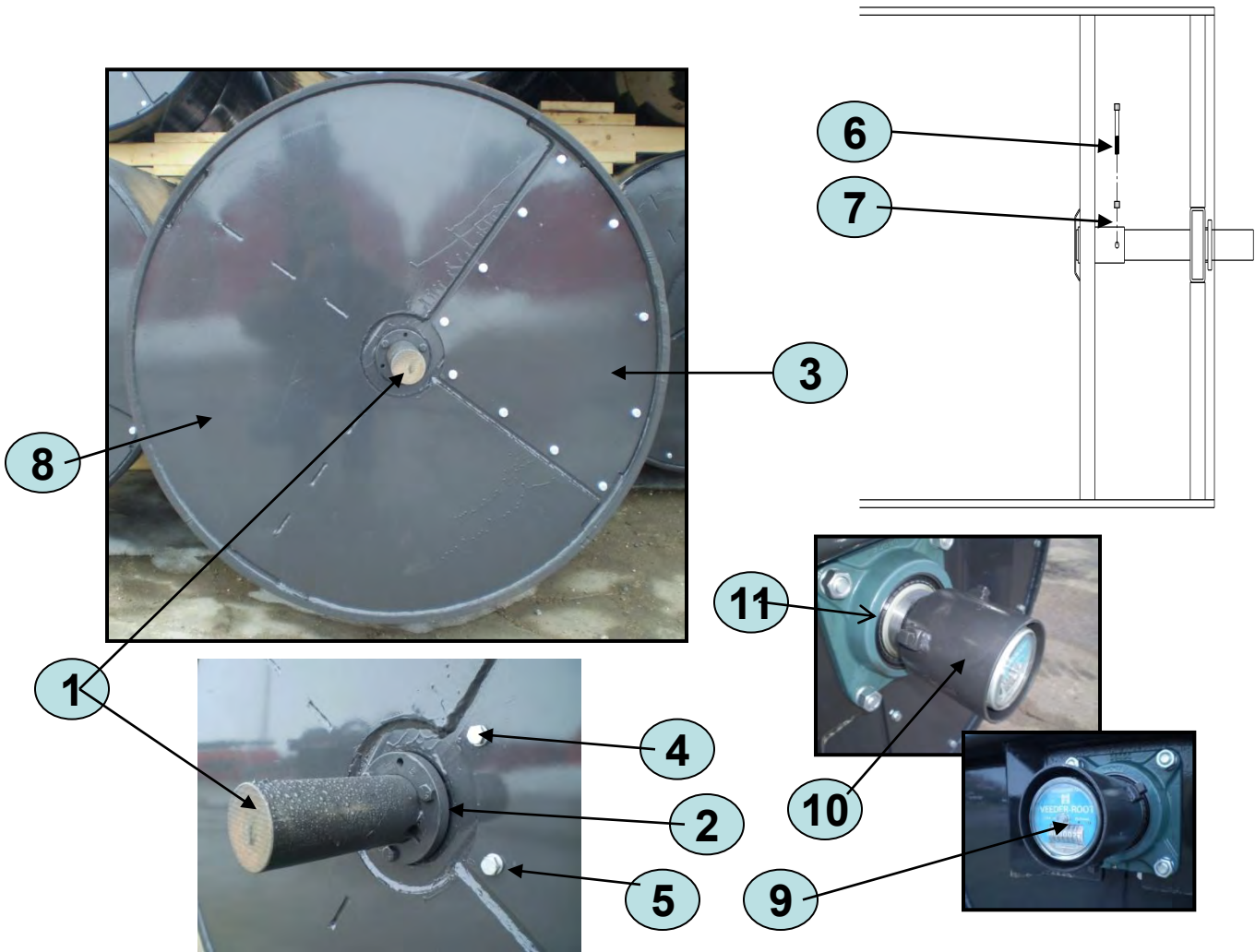
WING & WING AXLE ASSEMBLY



WING & WING AXLE ASSEMBLY

<u>Ref. #</u>	<u>Part #</u>	<u>Description</u>	<u>Qty</u>
1	53-3200R	Wing Frame – 214”	1
	53-3200L	Wing Frame – 214”	1
	53-3210R	Wing Frame – 131”	1
	53-3210L	Wing Frame – 131”	1
	53-3220R	Wing Frame – 143”	1
	53-3220L	Wing Frame – 143”	1
	53-3230R	Wing Frame – 191”	1
	53-3230L	Wing Frame – 191”	1
	53-3240R	Wing Frame – 197”	1
	53-3240L	Wing Frame – 197”	1
	53-3250R	Wing Frame – 257”	1
	53-3250L	Wing Frame – 257”	1
2	53-3400R	Rear Wheel Assembly	1
	53-3400L	Rear Wheel Assembly	1
3	53-1099	Pin	6
4	53-3500	Hinge Bracket	2
5	53-3510	Linkage Arm	4
6	53-4008	Spindle	2
7	53-3530R	Field Lock Latch	1
	53-3530L	Field Lock Latch	1
8	53-1085	Collar	2
9	53-4001	Cylinder – 4”x18”	2
10	53-1040	Cylinder Pin	12
11	53-4061	Set Screw	2
12	53-17C1672	1-8 x 4-1/2 Hex Cap 8NC	4
13	53-1C644	3/8-16 x 2-3/4 Hex Cap 5NC	6
14	53-85D6	3/8-16 Nut, Top lock	10
15	53-4000	Tire & Rim	2
16	53-4125	Hub Assembly Complete	2
17	53-4004	Cylinder – 2-1/2” x 4”	2
18	53-4065	Cylinder Clevis	2
19	53-4130	Cylinder Clevis	2
20	53-1C652	3/8-16 x 3-1/4 Hex Cap 5NC	4
21	53-10H35	Grease Fitting	4
22	53-4003	2-1/2 x 8 Cylinder	2
23	53-4101	Insulated Double Hose Clamp	4

DRUM ASSEMBLY



<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Qty</u>
1	53-1016	Roller Shaft	6
2	53-4015	Q1 2-7/16 Split Taper Bushing	6
3	53-1076	Shaft Access Cover	6
4	53-1C616	3/8-16 x 1 Hex Cap 5NC	66
5	53-4E6	3/8 Lock washer	66
6	53-1C856	1/2 -13 x 3-1/2 Hex Cap 5NC	6
7	53-85D8	1/2 -13 NC#5 Top Lock Nut	6
8	53-1012-10	Roller Weldment	Var.
	53-1012-11	Roller Weldment	Var.
	53-1012-15	Roller Weldment	Var.
	53-1012-15.5	Roller Weldment	Var.
	53-1012-17	Roller Weldment	Var.
	53-1012-20.5	Roller Weldment	Var.
9	53-4017	Mechanical Acre Counter	Opt.
10	53-3625	Acre Counter Protector	Opt.
11	53-4006	2-7/16 Four Bolt Flange Bearing	6

CALIBRATING YOUR MECHANICAL ACRE COUNTER



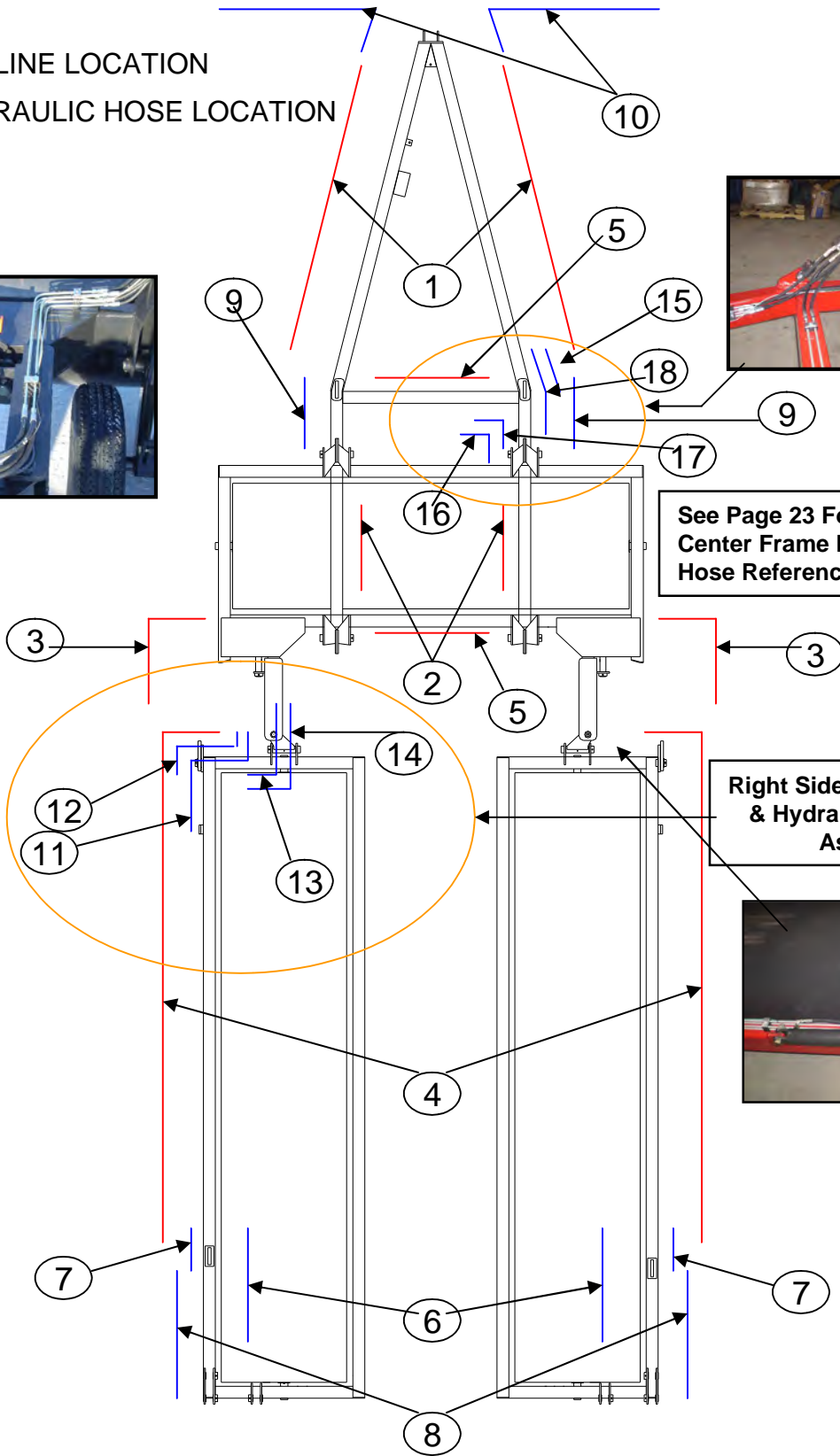
355 Revolutions of Drum Equals
One Number Change on Acre Counter

Number Shown on Acre Counter Multiplied by Acres
Rolled per Model Equals Total Acres Rolled

<u>Model</u>	<u>Acres Rolled</u>
TR7	.63
TR17	1.52
TR31	2.78
TR33	2.96
TR41	3.68
TR42	3.76
TR45	4.03
TR52	4.66
TR62	5.56

HYDRAULIC TUBE LINE & HOSE ASSEMBLY

RED = TUBELINE LOCATION
BLUE = HYDRAULIC HOSE LOCATION



**See Page 23 For
Center Frame Hydraulic
Hose Reference & Part Numbers**

**Right Side Wing Tube Lines
& Hydraulic Hoses Same
As Left Side**



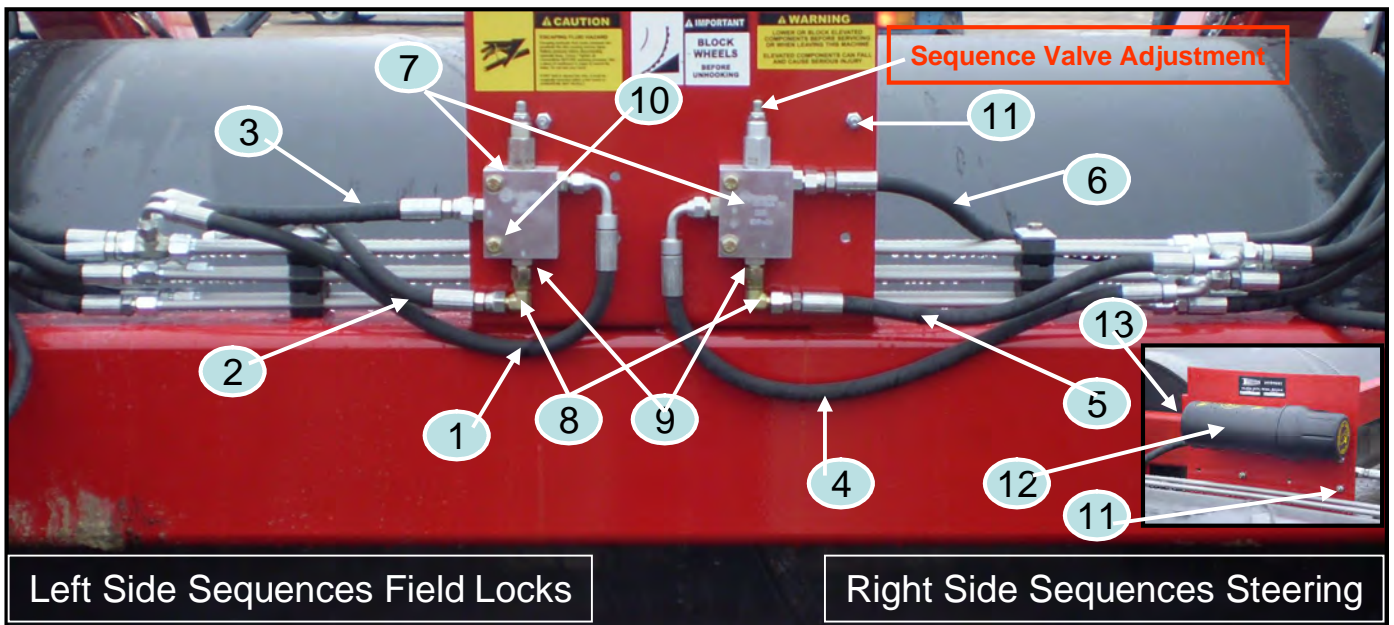
HYDRAULIC TUBE LINE AND HOSE ASSEMBLY

<u>Ref. #</u>	<u>Part #</u>	<u>Description</u>	<u>Qty</u>
1	53-4019	Hydraulic Tube Line, 96" Straight	4 or 6
2	53-4022	Hydraulic Tube Line, 36" Arced	4
3	53-4021	Hydraulic Tube Line, 36" 90 Degree Bend	12
4	53-4026	Hydraulic Tube Line, Wing TR31 – 70.25"	8
	53-4027	Hydraulic Tube Line, Wing TR33 – 82.25"	8
	53-4028	Hydraulic Tube Line, Wing TR41 – 130.5"	8
	53-4029	Hydraulic Tube Line, Wing TR42 – 136.5"	8
	53-4023	Hydraulic Tube Line, Wing TR45 – 153.5"	8
	53-4030	Hydraulic Tube Line, Wing TR52 – 196.5"	8
5	53-4020	Hydraulic Tube Line, 36" Straight	6 or 8
6	53-4034	Hydraulic Hose Assembly – 35.5"	2
7	53-4031	Hydraulic Hose Assembly – 18"	2
8	53-4037	Hydraulic Hose Assembly – 86.5"	4
9	53-4038	Hydraulic Hose Assembly – 50"	4
10	53-4039	Hydraulic Hose Assembly – 78"	4 or 6
11	53-4036	Hydraulic Hose Assembly – 55.5"	2
12	53-4035	Hydraulic Hose Assembly – 46.5"	2
13	53-4032	Hydraulic Hose Assembly – 26.5"	2
14	53-4033	Hydraulic Hose Assembly – 29.5"	2
15	53-4056	Hydraulic Hose Assembly – 22"	1
16	53-4057	Hydraulic Hose Assembly – 27.5"	2
17	53-4058	Hydraulic Hose Assembly – 19"	2
18	53-4055	Hydraulic Hose Assembly – 30.5"	1

Hydraulic Hose Kit Assemblies

<u>Part #</u>	<u>Description</u>
53-4090	Standard Tongue Hydraulic Hose Package
53-4092	Tongue Hydraulic Hose Package W/ Hydraulic Hitch Option
53-4094	Center Frame Hydraulic Hose Kit
53-4096	Wing Hydraulic Hose Kit

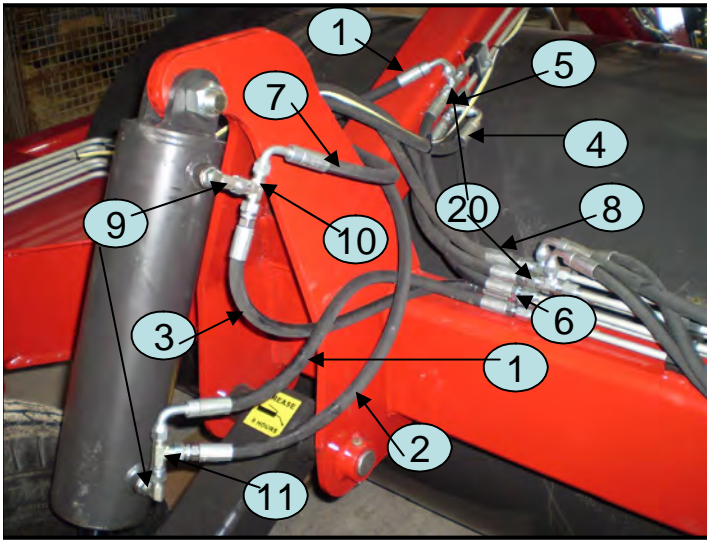
SEQUENCE VALVE HYDRAULIC HOSE ROUTING & REFERENCE



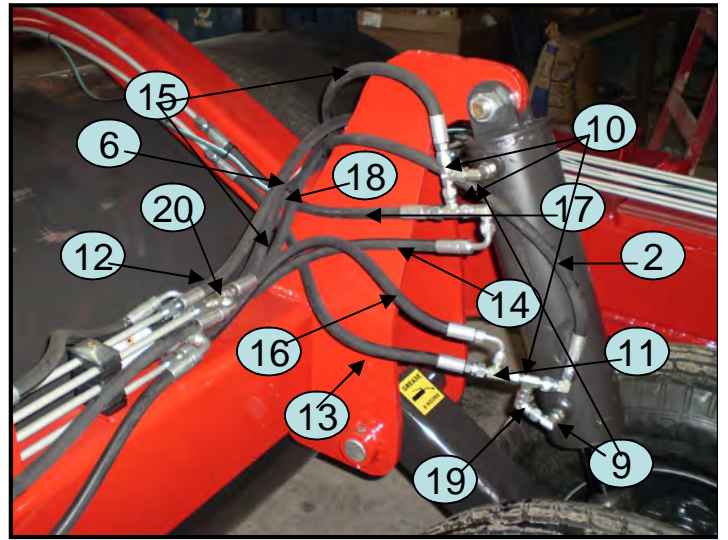
<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Qty</u>
1	53-4081	Hydraulic Hose Assy. – 22.5”	1
2	53-4084	Hydraulic Hose Assy. – 15”	1
3	53-4085	Hydraulic Hose Assy. – 13”	1
4	53-4071	Hydraulic Hose Assy. – 24”	1
5	53-4077	Hydraulic Hose Assy. – 16.75”	1
6	53-4074	Hydraulic Hose Assy. – 18.5”	1
7	53-4075	Sequence Valve	2
8	53-4045	Hydraulic Connector	2
9	53-4046	Hydraulic Adaptor	6
10	53-1C532	5/16-18x2 Hex Cap 5NC	4
11	53-85D5	5/16-18 Hex Nut, Top Lock	6
12	53-01-473	Operators Manual Holder	1
13	53-1C512	5/16-18x3/4 Hex Cap 5NC	2

CENTER FRAME HYDRAULIC HOSE ASSEMBLY

Left Side

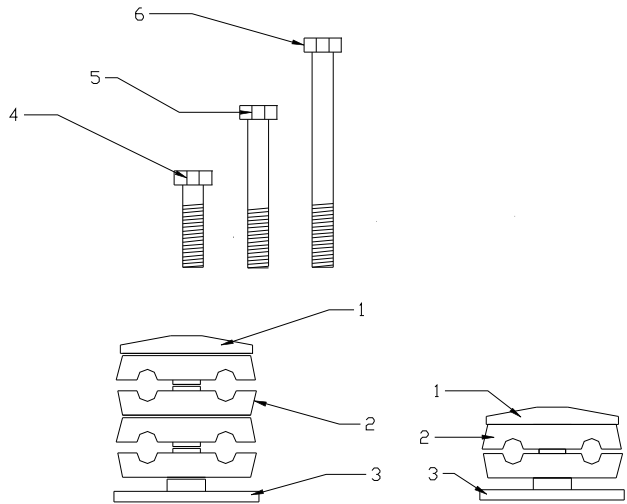


Right Side



<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Qty</u>
1	53-4080	Hydraulic Hose Assy. – 22"	2
2	53-4066	Hydraulic Hose Assy. – 40.5"	2
3	53-4082	Hydraulic Hose Assy. – 22"	1
4	53-4079	Hydraulic Hose Assy. – 28.5"	1
5	53-4083	Hydraulic Hose Assy. – 16"	2
6	53-4067	Hydraulic Hose Assy. – 32.5"	2
7	53-4076	Hydraulic Hose Assy. – 31.5"	1
8	53-4078	Hydraulic Hose Assy. – 31"	1
9	53-4044	90 Degree Hydraulic Fitting	4
10	53-4041	Hydraulic Tee	4
11	53-4043	Hydraulic Tee	2
12	53-4086	Hydraulic Hose Assy. – 29.5"	1
13	53-4072	Hydraulic Hose Assy. – 24.5"	1
14	53-4073	Hydraulic Hose Assy. – 22.5"	1
15	53-4068	Hydraulic Hose Assy. – 32.5"	2
16	53-4070	Hydraulic Hose Assy. – 24"	1
17	53-4105	Hydraulic Hose Assy. – 19"	1
18	53-4069	Hydraulic Hose Assy. – 28.5"	1
19	53-4045	Hydraulic Elbow	3
20	53-4042	Hydraulic Tee	8

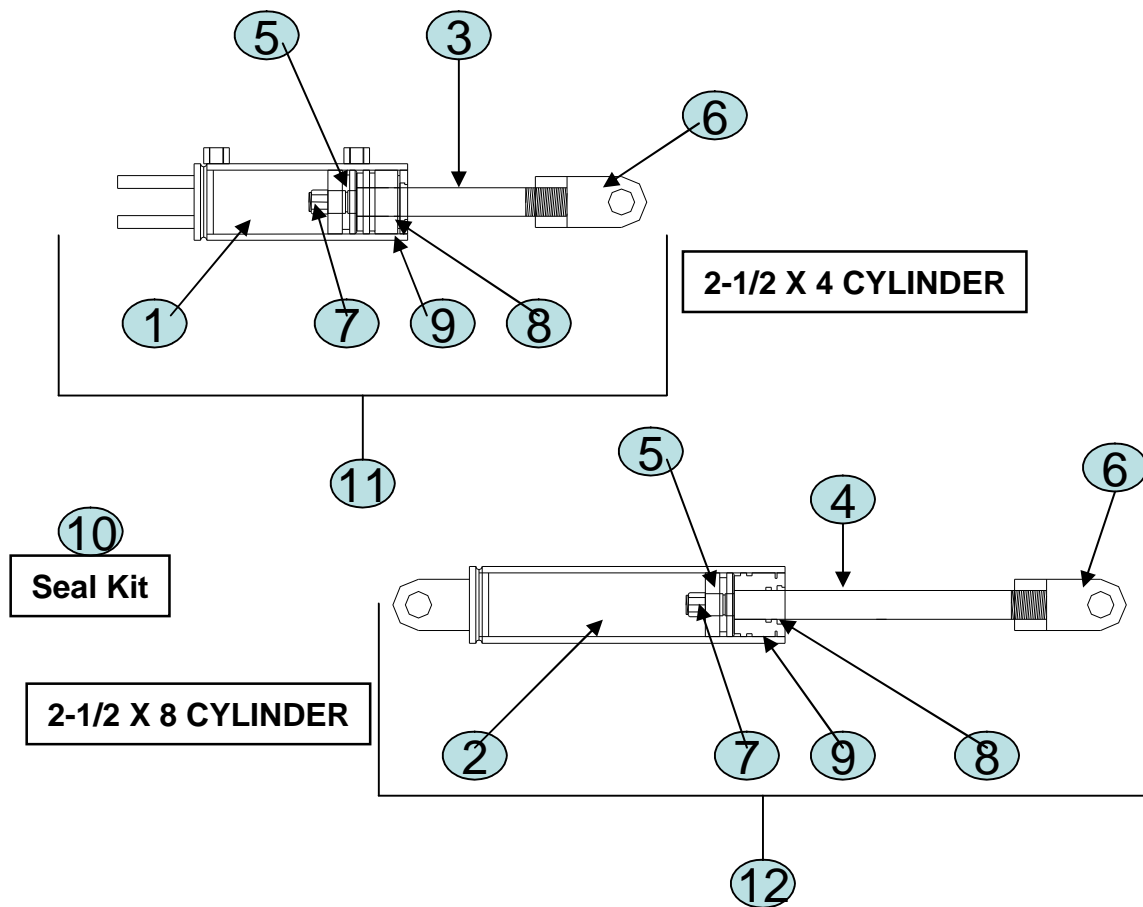
Hydraulic Tube Line Clamp Details



<u>Ref. #</u>	<u>Part #</u>	<u>Description</u>
1	53-4024	Twin Cover Plate
2	53-4025	Twin Poly Clamp
3	53-4014	Twin Clamp Weld Plate
4	53-1C520	5/16-18 x 1-1/4 Hex Cap 5NC
5	53-1C536	5/16-18 x 2-1/4 Hex Cap 5NC
6	53-1C552	5/16-18 x 3-1/4 Hex Cap 5NC

HYDRAULIC WELDED CYLINDER PARTS BREAKDOWN

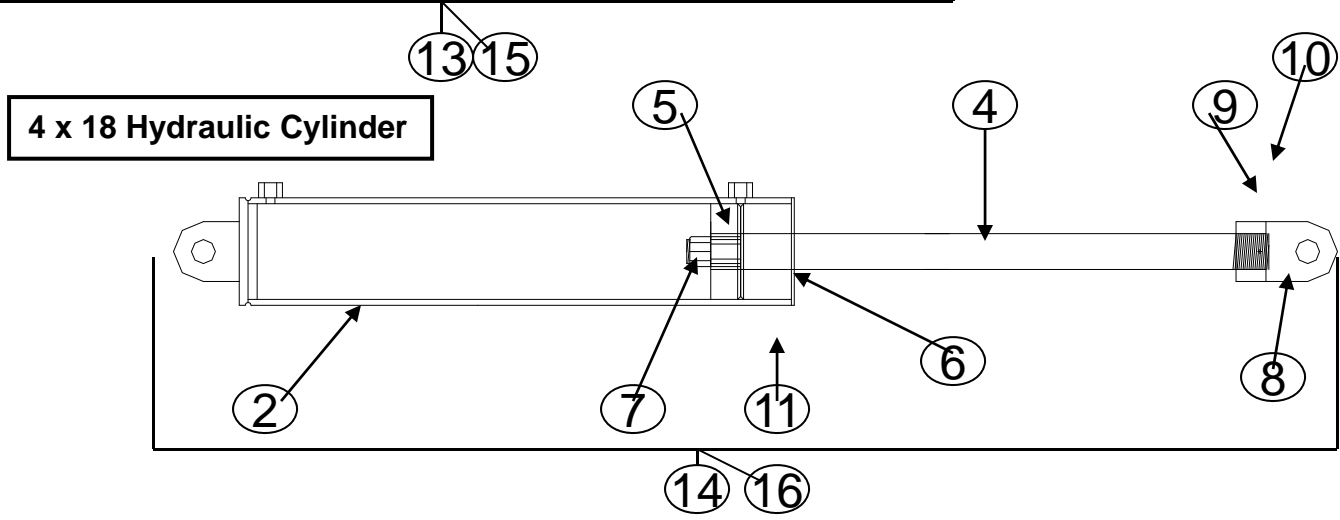
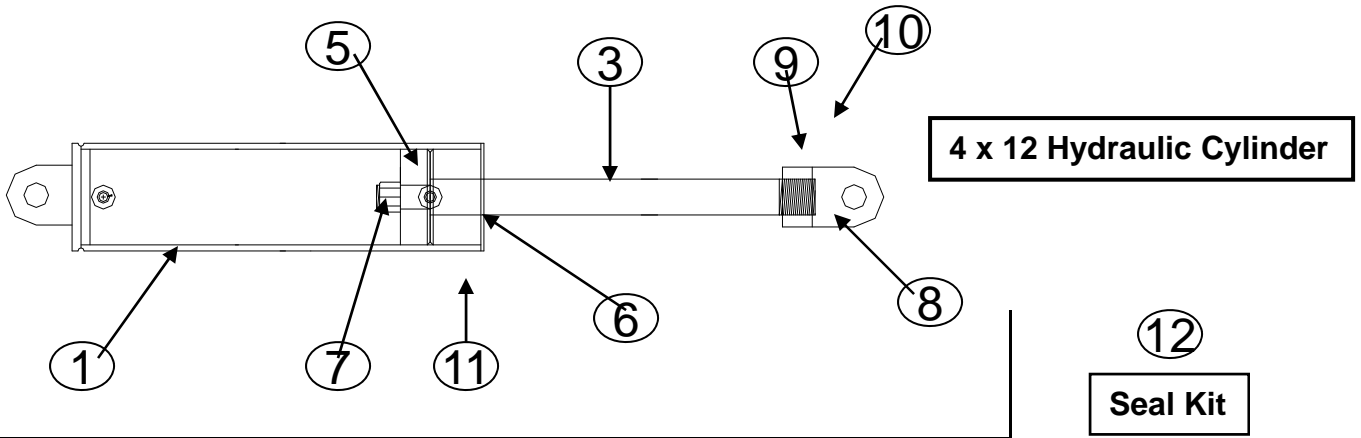
2-1/2 x 4 Cylinder/2-1/2 x 8 Cylinder



Ref. #	Part #	Description	Qty
1	53-2020	Cylinder Shell, 2-1/2x4	1
2	53-2030	Cylinder Shell, 2-1/2x8	1
3	53-2033	Rod, 4" Stroke	1
4	53-2038	Rod, 8" Stroke	1
5	53-2037	Piston	1
6	53-4065	Clevis	1
7	53-4064	Nut	1
8	53-2035	Head	1
9	53-4062	Snap Ring, Internal	1
10	53-4205	Seal Kit	1
11	53-4004	2-1/2x4 Cylinder Complete	2
12	53-4003	2-1/2x8 Cylinder Complete	2

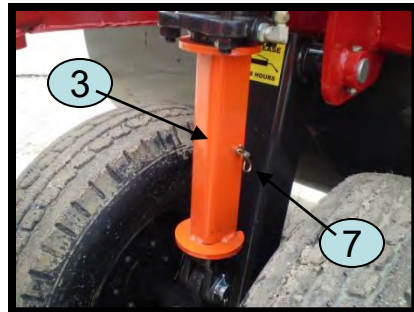
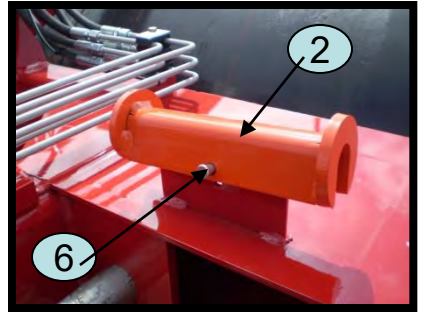
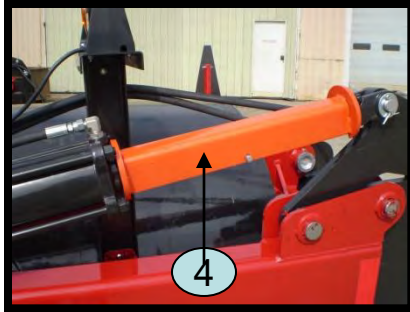
HYDRAULIC WELDED CYLINDER PARTS BREAKDOWN

4 X 12 Cylinder/4 X 18 Cylinder



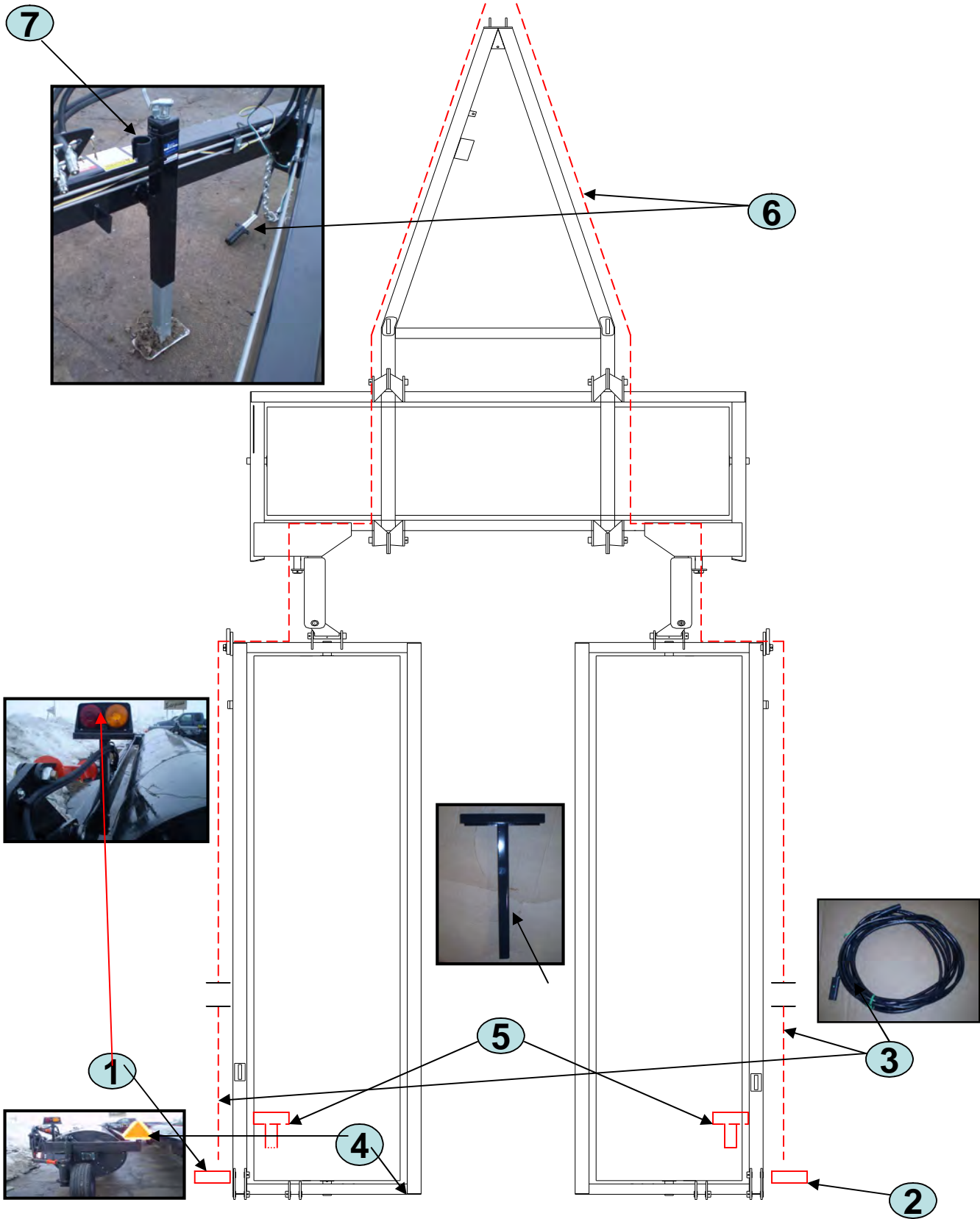
Ref. #	Part #	Description	Qty
1	53-2010	Cylinder Shell, 4 x 12	1
2	53-2060	Cylinder Shell, 4 x 18	1
3	53-2011	Rod, 12" Stroke	1
4	53-2032	Rod, 18" Stroke - 1.5"	1
	53-2047	Rod, 18" Stroke - 1.75"	1
5	53-2046	Piston	1
6	53-2044	Head	1
7	53-4063	Nut	1
8	53-4130	Clevis	1
9	53-4200	Nylon Plug	1
10	53-4061	Set Screw, Clevis	1
11	53-4060	Set Screw, Head	1
12	53-4210	Seal Kit - 1.5" Rod	1
	53-421011	Seal Kit - 1.75" Rod	1
13	53-4002	4X12 Welded Cylinder Complete	2
14	53-4001	4X18 Welded Cylinder Complete	2
15	53-4002T	4X12 Tie Rod Cylinder Complete	
16	53-4001T	4X18 Tie Rod Cylinder Complete	

TRANSPORT LOCKS & LOCATION



<u>Ref. No.</u>	<u>Part No.</u>	<u>Description</u>	<u>Qty</u>
1	53-3675	Transport Lock, 4.75"	2
2	53-3676	Transport Lock, 8.75"	2
3	53-3677	Transport Lock, 12.25"	2
4	53-3678 (Optional)	Transport Lock, 18.375"	2
5	53-3679	Transport Lock, 11" (52' Model Only)	2
6	53-4102	3/8X2-1/2 Picker Pin	8
7	53-4099	Hairpin	8

Land Roller Electrical Assembly



LAND ROLLER ELECTRICAL ASSEMBLY

<u>Ref. #</u>	<u>Part #</u>	<u>Description</u>	<u>Qty</u>
1	53-4016L	Safety Light, Left Hand	1
2	53-4016R	Safety Light, Right Hand	1
3	53-4087	10' Extension Cord	2
4	53-4018	Slow Moving Vehicle Sign	1
5	53-4120	Bracket, Safety Light	2
6	53-4116	Harness	1
7	53-4059	Harness Connector Holder	1
8	53-4112	Cable Tie, 6"	75
9	53-4113	Cable Tie, 8.8"	4

BOLT TORQUE

CHECKING BOLT TORQUE

The tables shown below give correct torque values for various bolts and cap screws. Tighten all bolts to the torques specified in the chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Make sure To replace worn out bolts and nuts with the same grade your machine came with.

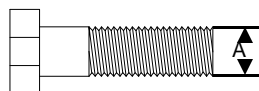
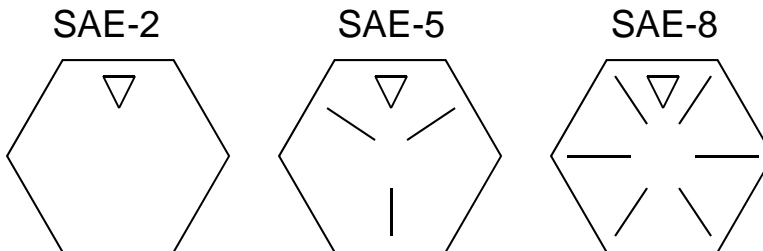
ENGLISH TORQUE SPECIFICATIONS

Bolt Diameter	Bolt Torque		
	SAE 2	SAE 5	SAE 8
"A"	N.m (lb-ft)	N.m (lb-ft)	N.m (lb-ft)
1/4"	8 (6)	12 (9)	17 (12)
5/16"	13 (10)	25 (19)	36 (27)
3/8"	27 (20)	45 (33)	63 (45)
7/16"	41 (30)	72 (53)	100 (75)
1/2"	61 (45)	110 (80)	155 (115)
9/16"	95 (70)	155 (115)	220 (165)
5/8"	128 (98)	215 (160)	305 (220)
3/4"	225 (165)	390 (290)	540 (400)
7/8"	230 (170)	570 (420)	880 (650)
1"	345 (225)	850 (630)	1320 (970)

Torque figures indicated above are called for non-greased or non oiled threads and heads unless otherwise specified. Therefore, do not grease or oil bolts unless otherwise specified in this manual. When using locking elements, increase torque values by 5%.

Torque values for bolts are identified by their head markings.

IMPORTANT: Locking nuts on cylinders and pivoting components should only be tightened to the point where the bolt no longer turns. Over tightening of these nuts can result in damaged parts.





Tebben Enterprises - 10009 Highway 7 SE - Clara City, Minnesota 56222

LAND ROLLER



Models: TR7 / TR12 / TR15 / TR17 / TR21 / TR31 / TR33 / TR41 / TR42 / TR45 / TR52



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