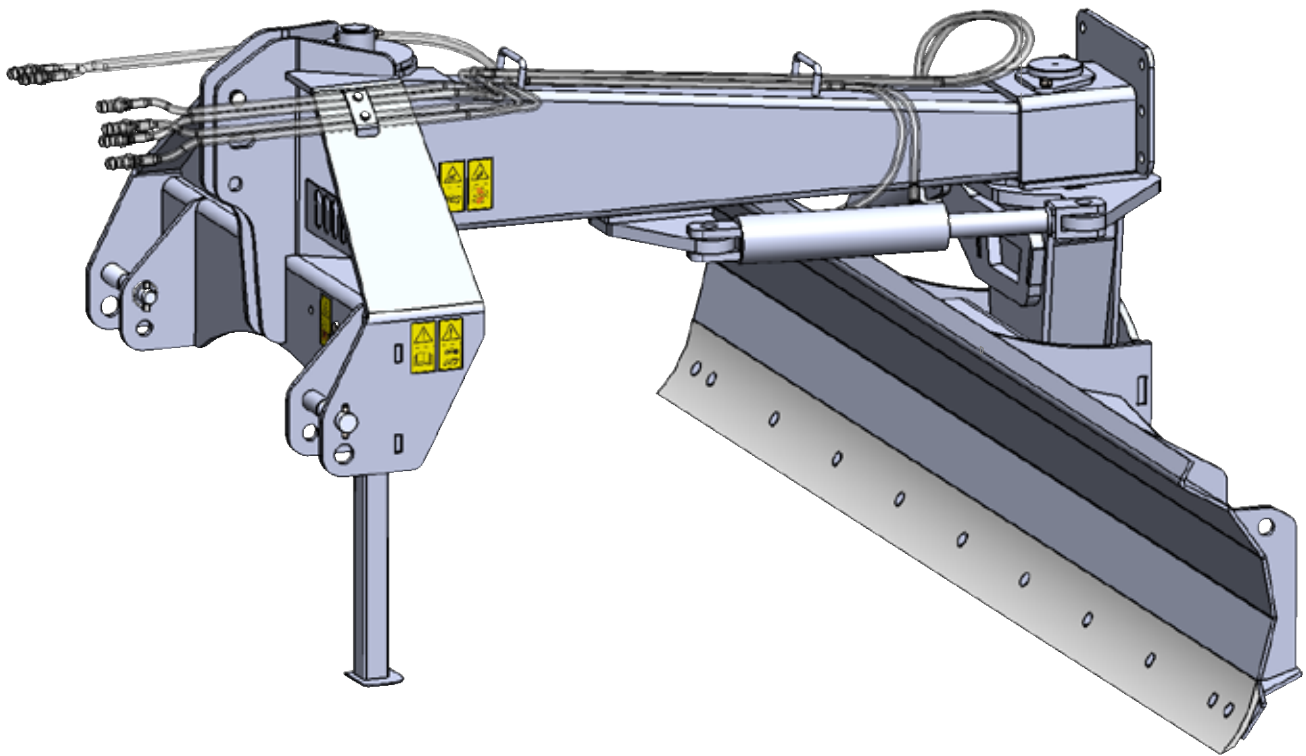




8XD-100
9XD-100
9XD-150
10XD-150

XD Grader Blade Operator's / Parts Manual



MK Martin Enterprise Inc.
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Warranty and Limitations of Liability

All equipment is sold subject to mutual agreement that it is warranted by M K Martin Inc. (Hereafter called the company) to be free of any defects in material and workmanship. The company shall not be liable for special, indirect or consequential damage of any kind under this contract or otherwise. The company's liability shall be limited exclusively to replacement or repair without charge at it's factory or elsewhere, at it's discretion, any materials or defects, which become apparent within one year from the date of purchase. In no event shall M K Martin Enterprise Inc. be liable for special, direct or incidental or consequential damages of any kind. The purchaser by acceptance of the equipment will assume all liability for damage which may result from use or misuse by the operator. The purchaser shall maintain and service the equipment as recommended in the Operator's Manual.

This warranty does not cover **Rental/Commercial or Industrial** use of the equipment. This equipment is rated as agricultural.

For **Rental/Commercial or Industrial** use, Warranty is for defective material and workmanship for a period of 90 days from the date of purchase.

Warranty is null and void unless the Warranty Registration form has been completed and on file at

M K Martin Enterprise Inc
3950 Steffler Rd
Elmira On Ca N3B 2Z3

For your Record

Purchase Date _____

Model # _____

Serial # _____

Please contact your retailer

Manufactured by
M K Martin Enterprise Inc
3950 Steffler Rd
Elmira On Ca N3B 2Z3
Tel: (519)-664-2752
(855)-664-2752
Fax: (519)-664-3695
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M K Martin Enterprise Inc
3950 Steffler Rd
Elmira ON CA N3B 2Z3

Purchaser's warranty protection is valid only when this completed form or a copy of this form is on file at M K Martin Enterprise Inc. By filling out this form the purchaser has acknowledged delivery of equipment and owner's / operator's manual and has accepted the condition of the equipment.

Date of delivery to purchaser -----

Type of Equipment -----

Model # ----- **Serial #** -----

Retailer's Signature Indicates

- *Equipment was properly assembled as directed by manufacturer*
- *Equipment was tested for functionality and operates properly*
- *Purchaser was instructed in safe and proper operating procedures*
- *Warranty was explained to purchaser*
- *Purchaser was given the operators manual*

Retailer

Signature -----

Company -----

Address -----

Purchaser's signature indicates

- *Acceptance of equipment fully assembled*
- *Received operator's manual*
- *Clearly understands conditions of warranty*
- *Received instructions of safe and proper operation of equipment*

Purchaser

Signature -----

Company -----

Mailing address -----

City ----- **Prov/State** ----- **Postal Code/Zip** -----

Available phone number -----

Warranty is valid only when it has been received by manufacturer at address above

Warranty Registration

Please Cut and Return to M K Martin Enterprise Inc

Fold And Tape here

Do not tape all edges or use staples

Fold Here

**Postage
Stamp**

**M K Martin Enterprise Inc
3950 Steffler Rd
Elmira ON CA N3B 2Z3**

Safety

Take Note! This safety symbol is found throughout this manual to call your attention to instructions involving yourself and others working around the machine.

- **Failure to follow these instructions can result in injury or death**



This symbol means

- **Attention!**
- **Become Alert!**
- **Your Safety is involved!**

Signal words are used in this manual.

Caution: Indicates a potential hazardous situation that may result in injury.

Warning: Indicates a hazardous situation that could result in serious injury or death.

Danger: Indicates a hazardous situation that needs to be avoided. It is you the operator that needs to be aware of these dangers.

If you have any questions not answered in this manual please contact your dealer or

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Safety – It's in your interest.



Safety Guidelines.

Safety of the operator is one of our main concerns, however it is up to the operator to practice caution. To avoid personal injury, study the following precautions and insist that those working with you follow them.

Replace any decals that may be missing or not readable. Location of decals are indicated elsewhere in this manual.

Do not use this machine while under the influence of drugs or alcohol.

Review the safety instructions with all users annually.

This equipment should not be operated by children or those unfamiliar with the operation of the Grader Blade. **Do not allow persons to operate this machine until they have read this manual and/or were instructed by a qualified person.**

Do not paint over, remove or deface any safety signs or warning decals on the XD Blade. **Observe all safety signs and practice the instructions on them.**

This blade is designed to hydraulically offset, tilt and angle the blade.



Please be careful with the extra weight on the back of the tractor. It may be necessary to add weights on the front of the tractor to keep it balanced properly.



Danger! The hydraulic lines are under pressure! Do not use if the lines are leaking, cracked or damaged. A leaking stream of hydraulic fluid under pressure can penetrate the skin and enter blood vessel's. In case of skin penetration seek medical attention immediately!

Hydraulic Leak Test



Warning! Do not check for high pressure leaks with your hands or fingers. Use a piece of cardboard or a thin piece of wood to detect the leak.

A high pressure stream of fluid from a pin hole can penetrate the skin and inject hydraulic fluid into your blood veins.

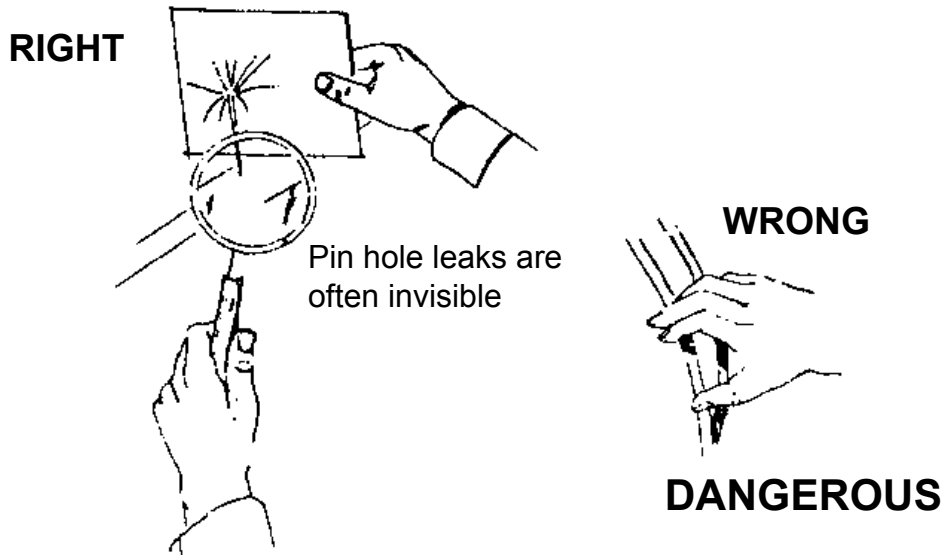


Figure 1. Detecting pinhole leaks in a hydraulic system.



IF THE SKIN HAS BEEN PENETRATED GET MEDICAL ATTENTION IMMEDIATELY!



Hydraulic lines may have high pressure fluid in the lines, even when the lines are disconnected.

Remember a small leak at high pressure may be invisible yet can penetrate the skin. If this happens get medical attention immediately, serious infection or toxic reaction can develop when hydraulic fluid pierces the skin.

Use caution when working with hydraulic components. Ensure there are no leaks, all fittings are tight and all components are in good repair.



Use a piece of wood or cardboard as a backstop when searching for leaks, **NEVER** your hand or fingers.



Always relieve pressure before disconnecting or working on hydraulic system.



Extreme Duty Grader Blade Operating Instructions

The Extreme Duty Blade is designed for larger tractors. The grader blade has 3 hydraulic cylinders for adjusting, Offset, Tilt and Angle.

To reverse the blade, remove the pin from the angle cylinder and manually turn the blade 180° and reinsert the pin. This will now allow the blade to be pushed, use caution in this position as the blade will dig into the surface more aggressively.

The Extreme Duty Blade uses a 3 1/2" x 12 Cylinder for angling the Blade, a 3 1/2"x 8 for tilting the blade. The **8XD-100 and 9XD100** model uses a 4x16 cylinder for offsetting the blade and the **9XD150 and 10XD150** uses a 5"x18 cylinder.

To Operate the XD Grader Blade

1. Attach to tractor as 3ph mounted equipment
2. Ensure all pins are secured
3. Raise the blade slightly with the hydraulics
4. Undo the stand lock pin and pull the stem up to the top point, lock into place with the lock pin
5. At this time you can lengthen or shorten the top link for your requirements. More angle will make the blade more aggressive and less angle will make it less aggressive.
6. For finishing the grade, allow the material to slip under the cutting edge before it moves off the end of the blade.
7. If the optional Tail wheel kit is use it is recommended that the top link is disconnected.

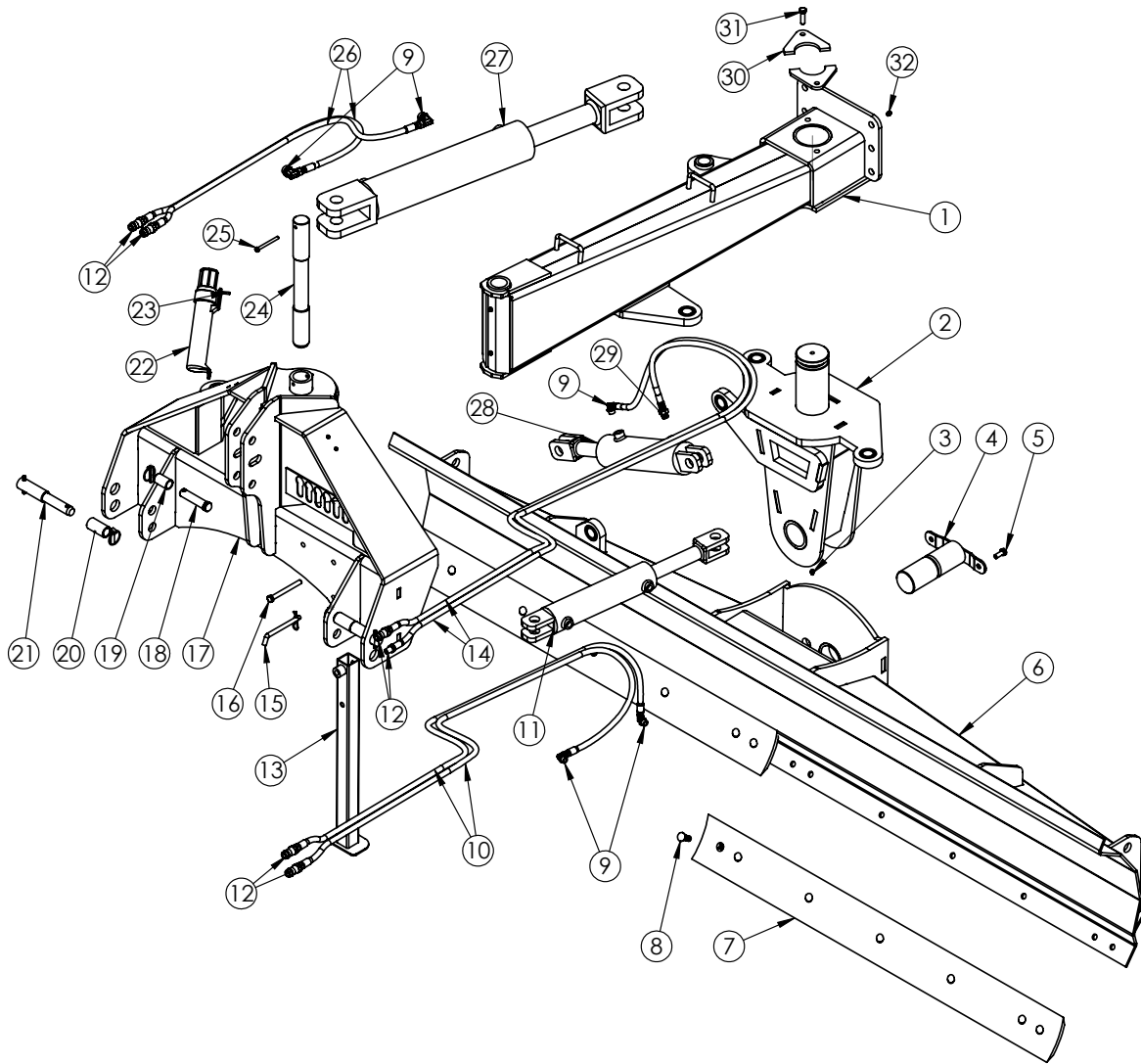
Be careful when backing into the load as this causes some of the tractor weight to transfer to the blade.

Sign Off Form

M K Martin Enterprise Inc. follows the general Safety Standards specified by the American Society of Agricultural Engineers (ASAE) and the Occupational Health and Safety Administration (OSHA). Anyone who will be operating and/or maintaining the equipment must read and clearly understand ALL Safety Operating and Maintenance instructions presented in this manual. Do not operate or allow anyone else to operate this equipment until such information has been reviewed. Annually review this information before the season start-up. Make these reviews of SAFETY and OPERATION annually as 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 understood the information in the operator's manual and have been instructed in the operation of the equipment.

Date	Employees Signature	Employers Signature

XD-100 Grader Blade Parts



Item #	Description	8XD-100 Part #	9XD-100 Part #	Qty
1	Main Beam	50658	50658	1
2	Main Pivot	50662	50662	1
3	Grease Fitting 1/8 NPT	OL	OL	1
4	Blade Pivot Pin	50596	50596	1
5	Bolt 1/2x1 1/4 c/w lw	OL	OL	2
6	Moldboard	50633	50612	1
7	Cutting Edge	783-100-804	783-100-904	1
8	Plow Bolts 5/8x1 3/4 c/w lw, n	10 pc	11 pc	
9	Hydraulic Fitting	6801-0608	6801-0608	5
10	Angle Cylinder Hose	50844	50844	2
11	Angle Cylinder	cyIHYS35FEM12-10	cyIHYS35FEM12-10	
12	Tractor Hydraulic Nipples	S71-4	S71-4	6
13	Stand	50616	50616	1
14	Tilt Cylinder Hose	50844	50844	2

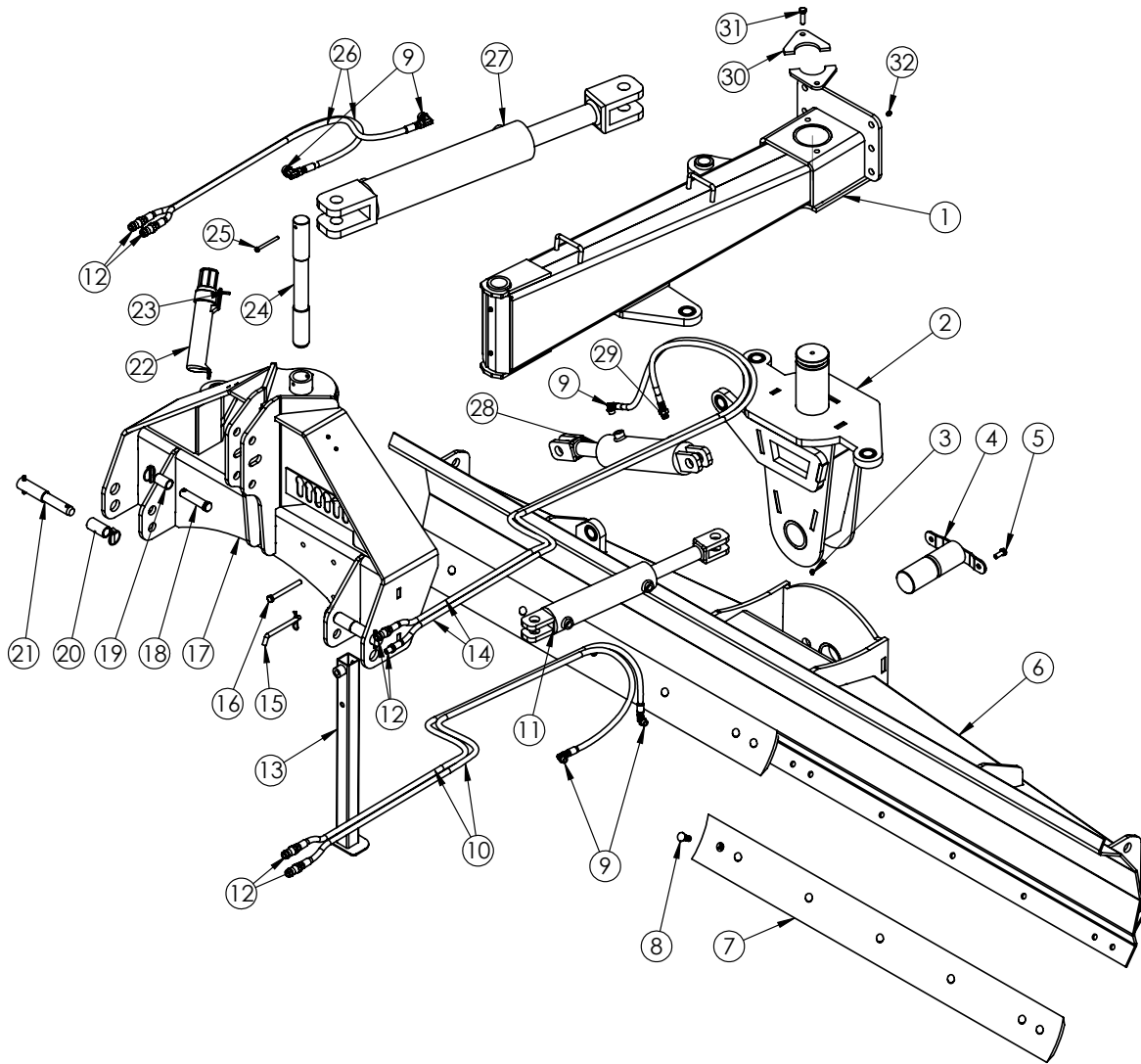
XD-100 Grader Blade Parts

Item #	Description	8XD-100 Part #	9XD-100 Part #	Qty
15	Bent Pin	90146A090	90146A090	1
16	Bolt c/w In	OL	OL	1
17	"A" Frame	50650	50650	1
18	Top Link Pin	WAL387505	WAL387505	1
19	Top Link Bushing	Wal381703	Wal381703	1
20	Lift Arm Bushing	Wal381707	Wal381707	2
21	Hitch Pin	21838	21838	2
22	Manual Tube	DJA70111	DJA70111	1
23	Bolt 1/4x1 1/4 c/w lw, n	OL	OL	2
24	Main Beam Pin	50585	50585	1
25	Bolt 3/8x3 1/2 c/w In	OL	OL	1
26	Side shift Cylinder Hose	50846	50846	2
27	Side shift Cylinder	cyIHYS40FEM16-ASAE-10	cyIHYS40FEM16-ASAE-10	1
28	Tilt Cylinder	cyIHYS35FEM08-ASAE-10	cyIHYS35FEM08-ASAE-10	1
29	Hydraulic Fitting	6400-0608	6400-0608	1
30	Pivot Clamp	50597	50597	2
31	Bolt 1/2x1 3/7 c/w lw	OL	OL	2
32	Grease Fitting 1/8 NPT	OL	OL	1

Note

OL - Obtain Locally
c/w Complete With
fw - Flatwasher
lw - Lockwasher
In - Locknut
n - Nut

XD-150 Grader Blade Parts



Item #	Description	9XD-150 Part #	10XD-150 Part #	Qty
1	Main Beam	50584	50584	1
2	Main Pivot	50593	50593	1
3	Grease Fitting 1/8 NPT	OL	OL	1
4	Blade Pivot Pin	50596	50596	1
5	Bolt 1/2x1 1/4 c/w lw	OL	OL	2
6	Moldboard	50612	50644	1
7	Cutting Edge	783-100-904		1
	Cutting Edge		783-100-504	2
8	Plow Bolts 5/8x1 3/4 c/w lw, n	11 pc	14 pc	
9	Hydraulic Fitting	6801-0608	6801-0608	5
10	Angle Cylinder Hose	50844	50844	2
11	Angle Cylinder	cyIHYS35FEM12-10	cyIHYS35FEM12-10	
12	Tractor Hydraulic Nipples	S71-4	S71-4	6
13	Stand	50616	50616	1

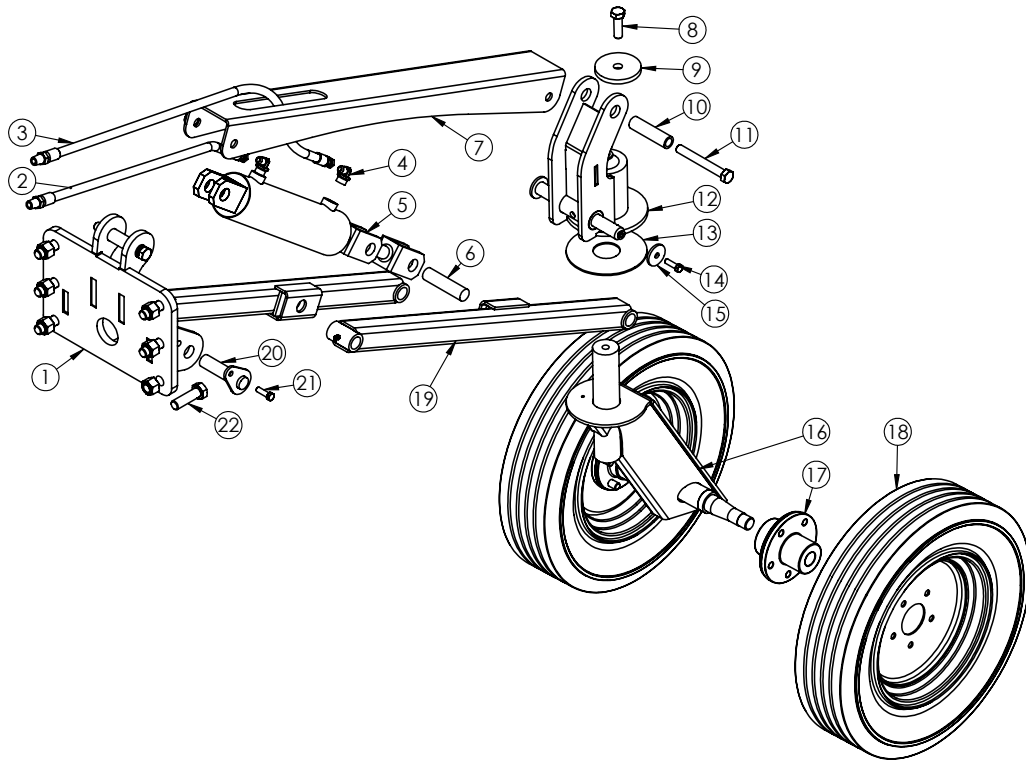
XD-150 Grader Blade Parts

Item #	Description	9XD-150 Part #	10XD-150 Part #	Qty
14	Tilt Cylinder Hose	50844	50844	2
15	Bent Pin	90146A090	90146A090	1
16	Bolt c/w In	OL	OL	1
17	"A" Frame	50568	50568	1
18	Top Link Pin	WAL387505	WAL387505	1
19	Top Link Bushing	Wal381703	Wal381703	1
20	Lift Arm Bushing	Wal381707	Wal381707	2
21	Hitch Pin	21838	21838	2
22	Manual Tube	DJA70111	DJA70111	1
23	Bolt 1/4x1 1/4 c/w lw, n	OL	OL	2
24	Main Beam Pin	50585	50585	1
25	Bolt 3/8x3 1/2 c/w In	OL	OL	1
26	Sideshift Cylinder Hose	50846	50846	2
27	Sideshift Cylinder	cyIHYS50FEM18-10	cyIHYS50FEM18-10	1
28	Tilt Cylinder	cyIHYS35FEM08-ASAE-10	cyIHYS35FEM08-ASAE-10	1
29	Hydraulic Fitting	6400-0608	6400-0608	1
30	Pivot Clamp	50597	50597	2
31	Bolt 1/2x1 3/7 c/w lw	OL	OL	2
32	Grease Fitting 1/8 NPT	OL	OL	1

Note

OL - Obtain Locally
c/w Complete With
fw - Flatwasher
lw - Lockwasher
In - Locknut
n - Nut

XD-100 & 150 Grader Blade Tail Wheel



Item #	Description	Part #	Qty
1	Tail Wheel Bracket	51075	1
2	Tail Wheel Hose Short	50919	1
3	Tail Wheel Hose Long	50920	1
4	Hydraulic Fitting	53806	2
5	3 x 8 Cylinder	21916	1
6	Cylinder Pin	51084	1
7	Top Chanel	51069	1
8	Bolt 5/8 x 2 c/w lw	OL	1
9	Caster Washer	51086	1
10	Chanel spacer	51078	2
11	Bolt 5/8 x 5 c/w ln	OL	2
12	Caster Swivel Base	51076	1
13	Slip disc	51126	1
14	Bolt 5/8 x 5 c/w	OL	2
15	Pin Washer	51072	2
16	Caster	50900	1
17	Hub	53986	2
18	Tire	53987	2
19	Tail wheel beam	51077	2
20	Beam pin	51082	2
21	Bolt 3/8 x 1 1/4 c/w fw, ln	OL	2
22	Bolt 3/4 x 2 1/2 c/w ln	OL	6

Care and Maintenance

- Grease all grease points every **8 hours**
- After the first 5 hours of use check all nuts and bolts and re-tighten if required.
- At 10 hours check all nuts and bolts and re-tighten if required.
- Repeat at 5 hour intervals until all bolts have seated and stay tight.

The Cutting edge is reversible and after it shows considerable wear it can be reversed .

1. Loosen all Plow-bolts
2. Remove all bolts except the bolts at each end of the cutting edge.
3. Use a hoist and tilt the blade on it's back and remove the remaining bolts.
4. Reverse the blade and reinstall all the bolts
5. Re-tighten all the bolts and check the torque as noted above.

Note! Cutting Edges are Heavy! Handle with care use heavy gloves!

Storage of Extreme Duty Grader Blade

- Clean off caked dirt and mud.
- Store the Grader Blade in a firm, dry area and set on blocks if the area is not firm enough to support the equipment without sinking in.
- Ensure that the hydraulic fittings are not lying on the ground or floor.
- When storing for a long period and rust may be a problem, grease all pivoting points to prevent them from becoming seized with rust.

Bolt Torque

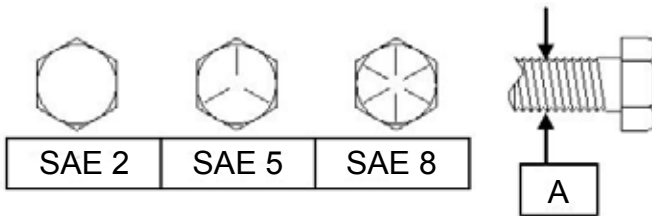
As used on this machine

- Bolt torque table shown below gives torque values for various bolts used.
- This chart is for non-lubricated threads.
- Replace with same strength bolt.

Torque Specifications. Torque values are identified by their head markings.

Diameter	SAE 2		SAE 5		SAE 8	
	<i>Lb-ft</i>	<i>N.m</i>	<i>Lb-ft</i>	<i>N.m</i>	<i>Lb-ft</i>	<i>N.m</i>
1/4	6	(8)	9	(12)	12	(17)
5/16	10	(13)	19	(25)	27	(36)
3/8	20	(27)	33	(45)	45	(63)
7/16	30	(41)	53	(72)	75	(100)
1/2	45	(61)	80	(110)	115	(155)
5/8	95	(128)	160	(215)	220	(305)
3/4	165	(225)	290	(390)	400	(540)
1	225	(345)	630	(850)	970	(1320)

Allen head cap screw are similar to SAE 8 quality



These torques are for reference only. Not all these sizes and grades are necessarily used in this machine. Bolts that are used as a pivot or hinge have to be used with a locknut, therefore only tighten enough to secure the bolt and still allowing the part to rotate freely.



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