

# **OPERATOR'S MANUAL**

## **Grader Blade**



**Put DIRT in its place.**

*MODEL*  
**GGB1600RS**



***WELCOME: You are now the owner of one of the most versatile machines for landscaping, terracing and earth moving. In years to come, your farm or ranch operation will benefit from the efficiency, utility, and economy provided by the GARFIELD Grader Blade***

***Please take time to be sure that you understand the proper maintenance and safe operation of this machine. Read this operator's manual carefully and you will get better results and service with fewer problems from your GARFIELD Grader Blade***

***GARFIELD, INC., provides warranty on each new machine sold. Be sure to fill out the warranty card and return it to GARFIELD, INC., within ten (10) days after delivery of your machine to be eligible for this warranty. If you did not get a warranty card with your machine, contact your Dealer to receive one. The completed warranty card must be on file with GARFIELD, INC., ENID, OK before warranty claims will be honored. GARFIELD, INC. will not provide warranty on any machine that has been altered or used for something other than its intended use.***

***GARFIELD, INC. reserves the right to make any changes, or add improvements to its products at any time without incurring any obligation to make such changes on previously manufactured equipment.***



## **SAFETY**

- 1. Do not lubricate, adjust, or repair when machine is in motion.***
- 2. Follow all laws when transporting on highways.***
- 3. Never allow personnel to ride on machine.***
- 4. All hydraulically elevated components must be blocked to prevent accidental lowering or just be lowered to the ground when adjustment or repairs are made.***
- 5. Keep all personnel a way from machine while it is being operated or being cycled.***
- 6. Drive slowly over rough ground, side hills, and around curves.***
- 7. OSHA requires that as a farm employer you meet certain requirements. Become familiar with and comply with those requirements.***
- 8. Be certain anyone who operates this machine understands all safety related items.***
- 9. Should hydraulic hoses and/or fittings be accidentally damaged, replace those components immediately for safe operation. Never open hydraulic components under pressure.***
- 10. Always put transport lock in while traveling down the road.***



**SERVICE, MAINTENANCE, AND OPERATION**  
**Model GGB1600RS**

***The machine should be greased every four hours or daily. Depending on usage.***

***There are (16) different grease zerks on the machine.  
4 on the swing cylinders, 2 on the tilt cylinder, 2 on the raise cylinder,  
2 on the raise cylinder, 2 on the hinge pins, 2 on the blade swivel  
bushings, 1 on the frame swivel bushing, and 1 each on the hubs.***

***The wheel bearings should be repacked yearly.***

***Tire pressure should be checked and kept at minimum 50lbs. each.***

***Lug nuts should be checked periodically.***



**OPERATION**  
**Model GGB1600RS**

***Hook up to the tractor, cycle all hydraulics, Be sure to remove transport locks by raising the scraper with your hydraulics before operating.***

***The Garfield Grader Blade utilizes three hydraulic valves on the tractor, allowing it to function in three different directions. The Grader has the ability to raise to a clearance from bit to ground of 30 inches while lowering to a negative cut. It can tilt from side to side approximately 15 degrees to accomplish slope cuts and ditching. The third action is the swing of the blade approximately 45 degrees, left or right. All three of these functions can be done on the go, or while the grader is stopped.***

***Color coded tie straps and markers are attached at the tip end of the hoses to identify the tree pairs of hydraulic lines to the grader. Black tie is the raise and lower of the blade. White tie is the swing of the blade. Yellow is the tilt of the blade. The following decal is located on the tongue of the blade.***

**BLACK-TIE, RAISE/LOWER  
YELLOW-TIE, TILT  
WHITE-TIE, ANGLE  
ONE-TIE, HYDRAULICS OUT  
TWO-TIES, HYDRAULICS IN**

***Hookup of the hydraulic hoses to the remote can be done in any way to suit individual needs.***

***The following method is suggested: Raise/Lower of the blade to #1 valve. Swing of the blade to***

***#2, and tilt to #3. Hook up so that push of the valve is lower and pull of the valve is to raise the blade.***

***Warning! Before angling the blade, make sure the grader is taken out of transport position and be certain that the cylinder stops are removed before use!***

***Be patient for the first few hours of learning to operate the grader. Time and experience will produce expert results. Any type of blade machinery has the tendency to create a "washboard" effect if grading is done at too much speed. Slow down and do the job right. The second tendency is to side draft if the blade is cutting deep and enough power is applied. Practice centering the cut on the blade to balance the draft. Operating the grader at a higher speed may not get the job done quicker, and may provide less than quality results.***



***Under the conditions described herein GARFIELD, INC. will within 12 months from the date of purchase on agricultural designed the operated machinery, and 90 days for hire commercial machinery, supply or at GARFIELD'S option, repair any part manufactred and/or workmanship, upon receipt of the damaged part.***

***GARFIELD components manufactured by companies other than GARFIELD are warranted soley by those companies. Those components include but are not limited to tires, rims belts, hoses, and hydraulics.***

***GARFIELD will not warrant any part which in GARFIELD'S opinion has failed due to modifications, abuse, misuse, improper maintenance, or due to normal wear.***

***GARFIELD will pay no further expenses, including but not limited to transportation, labor and loss of time income, or crops.***

***This warranty is made expressly in place of all other guarantees or warranties, expressed or implied.***



**FORWARD**

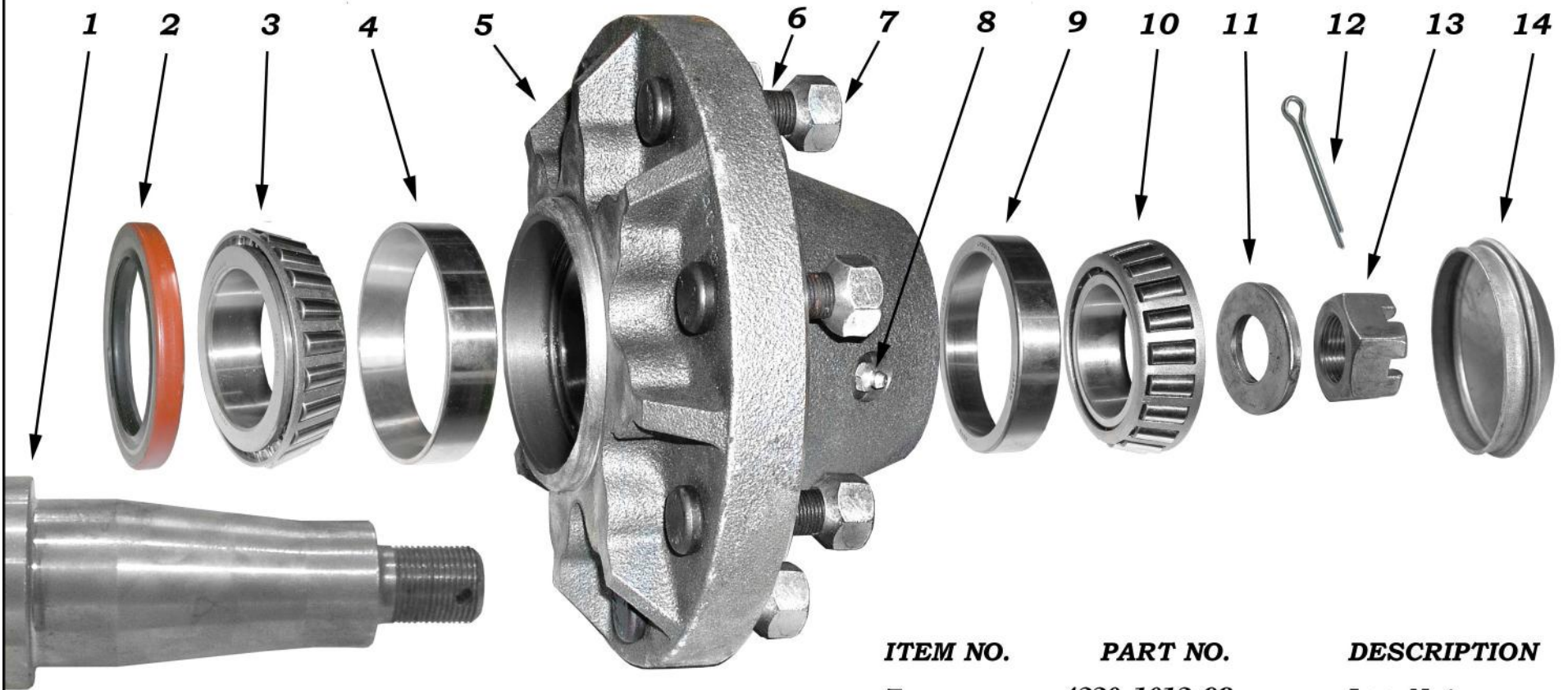
*This manual is written as a guide for owners and operators of the GARFIELD equipment, read it carefully and follow the suggestions which are made. Keep this manual in a convenient place for quick, easy reference and use it whenever questions come up.*

*Fill in the following information now for future reference and convenience. Always give this information to your Dealer when ordering new parts, or asking for help. Your GARFIELD dealer is your primary source for information, however, if at any time it is necessary for you to write directly to GARFIELD, INC. for additional information, give the model and serial number of your machine and as much descriptive information as possible. This will help us to do a better job of solving your problem and/or getting parts to you.*

MODEL NO. **1600RS** \_\_\_\_\_  
SERIAL NO. \_\_\_\_\_  
DATE OF PURCHASE \_\_\_\_\_  
NAME AND ADDRESS \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

*It is the policy of GARFIELD, INC. to make improvements on our product. GARFIELD, INC. reserves the right to make these improvements without incurring any obligation to those machines already in the field. Years of research and development combined with experience gained through close contact with operators has been drawn upon designing your products.*

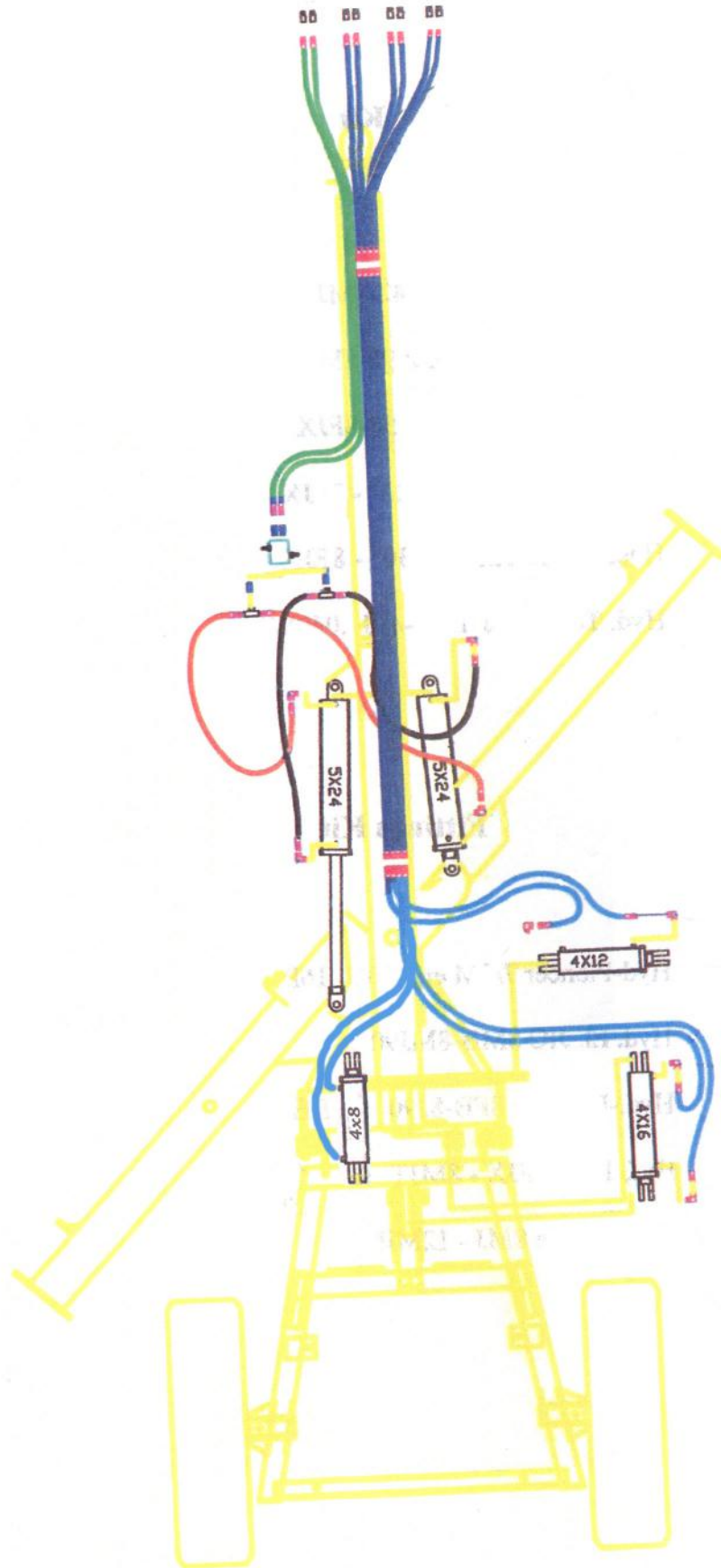
**GARFIELD, INC.**  
**500 W. SOUTHGATE**  
**ENID, OK 73703**  
**580-233-1410**  
**800-382-4478**



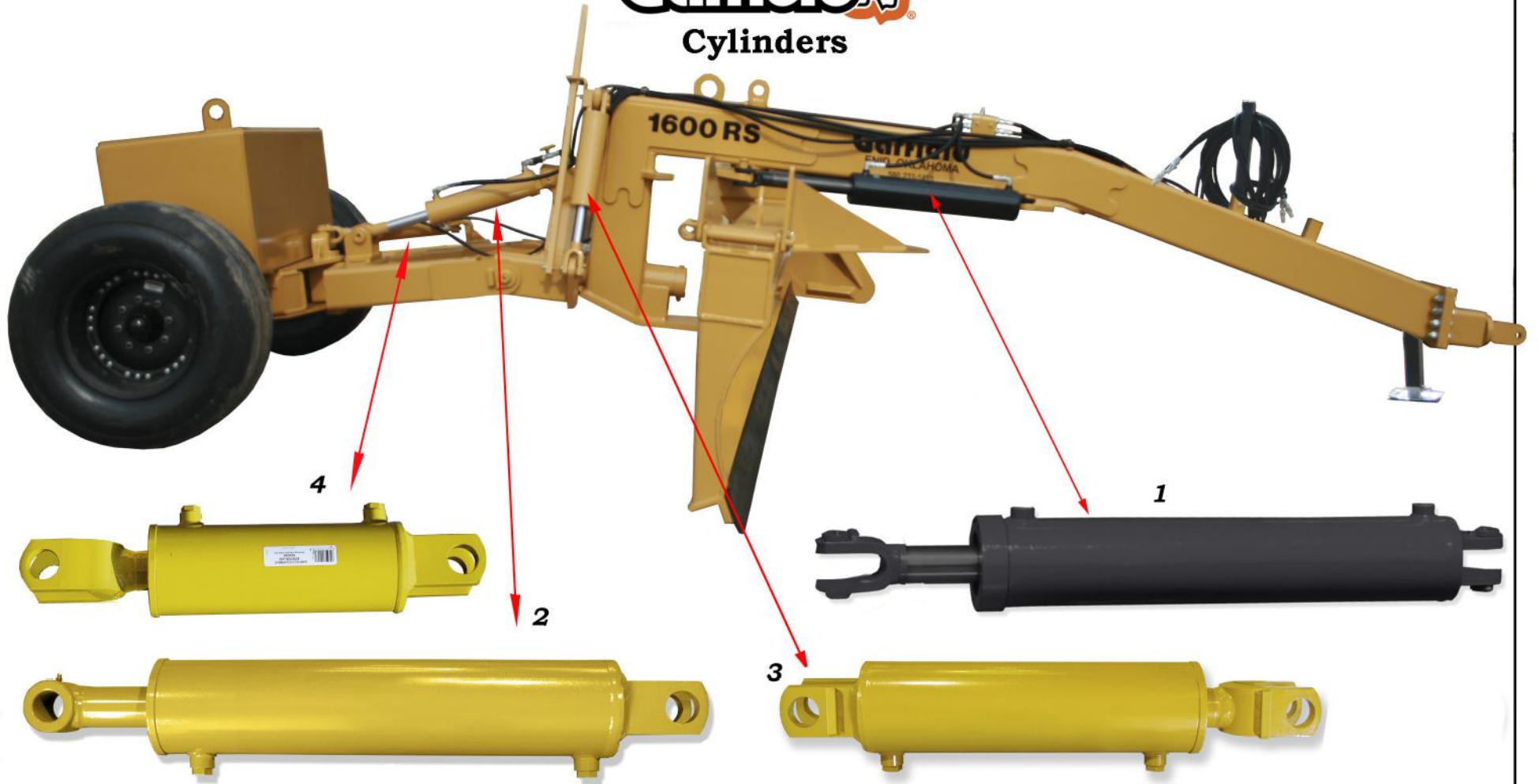
ITEM NO.	PART NO.	DESCRIPTION
1	4470-6105-00	Spindle
2	4130-5090-01	Seal
3	4150-1948-00	Inner Bearing
4	4150-7948-00	Inner Race
5	4190-0012-25	Hub
6	4210-1378-96	Stud

ITEM NO.	PART NO.	DESCRIPTION
7	4220-1012-98	Lug Nut
8	4180-1030-14	Grease Zerk
9	4150-7638-00	Outer Race
10	4150-1782-00	Outer Bearing
11	4240-1033-06	Washer
12	4260-1123-01	Cotter Pin
13	4220-1017-26	Spindle Nut
14	4330-3046-01	Dust Cap
15	4190-0012-25	Hub Assembly





# Garfield's Cylinders



**ITEM  
NO.**

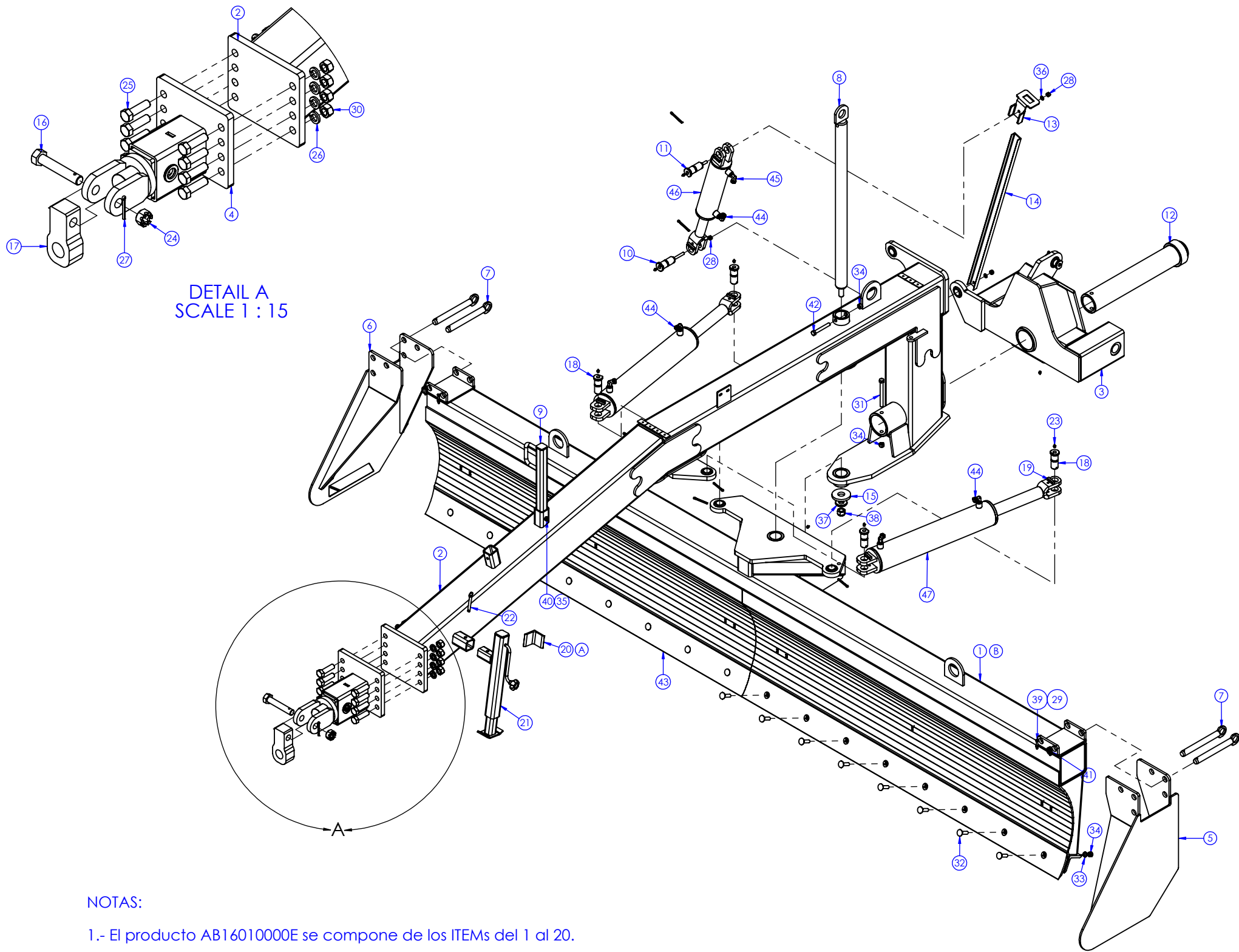
**PART  
NO.**

**DESCRIPTION**

**1  
2  
3  
4**

**4110-4136-01  
4110-4098-01  
4110-4094-01  
4110-4090-01**

**Cylinder, Angle  
Cylinder, Raise and Lower  
Cylinder, Tilt  
Cylinder, Rearsteer**



DETAIL A  
SCALE 1 : 15

NOTAS:

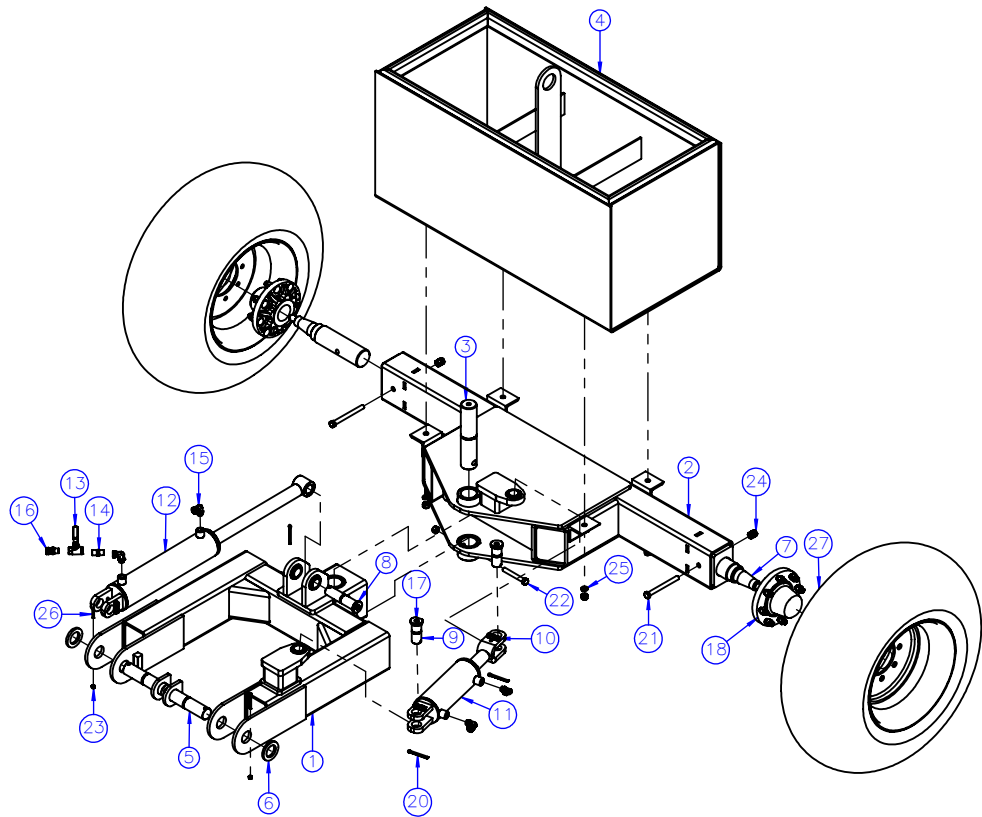
- 1.- El producto AB16010000E se compone de los ITEMS del 1 al 20.
- 2.- El componente AB16011100W es de color negro.
- 3.- Los demás componentes del producto AB16010000E deben pintarse con pintura EPOXICA ACRIL. AMARILLO CAT.

47	4110-4136-01	5" X 24" X 2-1/2" STROKE HYD. CYL (HCY5X24X212)	2	
46	4110-4094-01	4" X 12" X 2" STROKE HYD CYL (HCY4X12X2)	1	
45	4120-1016-46	1/2" MB X 1/2" FP HYD SWIVEL RESTRICTOR 90	1	
44	4120-1016-45	1/2 MB X 1/2 FP HYD SWIVEL 90 (HMBFS912)	5	
43	4370-1070-00	GARFIELD REPLACEMENT BLADE - 08 (GRB08)	2	
42	4210-5396-01	5/8" X 4-1/2" HEX CAP BOLT 11 NC G5 (BHC58X412)	1	
41	4270-2004-01	PIN LINCX 5/16" STD (HPL516)	2	
40	4210-5268-01	1/2" X 3" HEX CAP BOLT G5 (BHC12X3G5)	1	
39	4210-5082-01	5/16 X 2-18 UNC G5 HEX. BOLT	2	
38	4220-8018-51	1" NYLOCK HEX NUT 8 NC (BNT1NL)	1	
37	4240-1033-06	WASHER FOR 80-8 HUB (WW80-8)	1	
36	4250-1024-01	1/2" LOCK WASHER (BLW12)	2	
35	4220-1008-51	1/2" NY-LOCK NUT (BNT12NL)	1	
34	4220-1012-01	5/8" NUT 11 NC (BNT58)	18	
33	4250-1028-01	5/8" LOCK WASHER (BLW58)	16	
32	4210-8380-11	5/8" X 2-1/2" PLOW BOLT 11 NC G8 (BPB58X212G8)	16	
31	4210-5410-01	5/8" X 6-1/2" HEX CAP BOLT (BHC58X612)	1	
30	4220-1018-01	1" HEX NUT 8 NC (BNT1)	8	
29	4220-1002-51	5/16" NYLOCK HEX NUT 18 NC (BNT516NL)	2	
28	4220-1008-01	1/2" NUT - 13 UNC (BNT12)	3	
27	4260-1148-01	5/16" X 3" COTTER PIN (FCP516X3)	8	
26	4250-1040-01	1" LOCK WASHER (BLW1)	8	
25	4210-5592-01	1" X 3-1/2" HEX CAP BOLT 8 NC G5 (BHC1X312)	8	
24	4220-1022-21	1-1/4" CASTLE NUT (BNTC114)	1	
23	4180-1030-14	1/8" GREASE ZERK (FGZ18)	11	
22	4270-6102-04	DROP LEG PIN (JDLP)	1	
21	4190-1077-00	15" TRAVEL, JACK 8000# (JK158)	1	
A	20	AB16010010C R00	ANGLE FOR JACK	1
	19	CA12010012C R00	LOCK FOR CYLINDER	6
	18	DS99020001C R01	HINGE PIN	5
	17	CA12010010C R00	LARGE 2" HOLE PULL BLOCK	1
	16	CA12010009C R00	1-1/4" X 7" BOLT, HITCH	1
	15	AB16010005C R00	FLAT WASHER	1
	14	AB16010003C R00	CHANNEL FOR LEVEL	1
	13	AB16010002C R01	LEVEL INDICATOR	1
	12	AB16011500W R02	PIN FOR SWIVEL	1
	11	AB16011300W R00	TOP THREADED PIN	1
	10	AB16011200W R00	LOWER THREADED PIN	1
	9	AB16011100W R00	HOSES SUPPORT	1
	8	AB16011000W R00	CENTRAL SHAFT ASSEMBLY	1
	7	AB16010900W R00	PIN WITH EAR	4
	6	AB16010800W R01	RIGHT SIDE	1
	5	AB16010700W R01	LEFT SIDE	1
	4	AB16010500W R03	HITCH ASSEMBLY	1
	3	AB16010300W R00	SWIVEL FOR 1400 & 1600	1
	2	AB16010200W R05	TONGUE ASSEMBLY	1
B	1	AB16010100W R04	16' MOLDBOARD	1


REV	DATE	SYM	DESCRIPTION	REVIEWED BY	APPROVED BY:
R02	03/16/2016	B	MOLDBOARD WAS MODIFIED	NICOLAS AZORIN	NICOLAS AZORIN
R01	01/01/2016	A	IT WAS ADDED	NICOLAS AZORIN	NICOLAS AZORIN
R00	09/01/2009	-	FIRST EMISSION	NICOLAS AZORIN	NICOLAS AZORIN

UNLESS OTHERWISE SPECIFIED		GARFIELD MATERIAL SPECIFICATION:	
DIMENSIONS IN INCHES		SEVERAL	
.X	±0.060	WEIGHT:	4366.48 pounds
.XX	±0.030	SURFACE:	76183.09 in <sup>2</sup>
.XXX	±0.010	TREATMENT:	
FRACTIONAL	±1/16	FINISH:	
ANGLES	±1°	SCALE:	1:25
		SHEET:	1 FROM 1
		DESIGNED BY:	GARFIELD EQUIPMENT

THE INFORMATION CONTAINED IN THE DRAWING IS EXCLUSIVE PROPERTY OF GARFIELD EQUIPMENT, ISSUED IN STRICT CONFIDENCE AND SHALL NOT, WITHOUT THE PRIOR WRITTEN PERMISSION OF GARFIELD EQUIPMENT BE REPRODUCED, COPIED OR USED FOR ANY OTHER PURPOSE WHATSOEVER, EXCEPT THE MANUFACTURE OF ARTICLES FOR GARFIELD EQUIPMENT.		<b>Garfield</b>	
DESCRIPTION: 1600 GRADER BLADE. MAIN FRAME			
REVIEW:	PART NUMBER:	SIZE:	
R02	AB16010000A	B	



27	4330-2525-01	H40 X 14.5-19 8 HOLE TIRE AND WHEEL (TIRE 145)	2
26	4210-8086-01	5/16" X 2-1/2" HEX CAP BOLT GRADE 8 (BHC516X212G8)	2
25	4250-1028-01	5/8" LOCK WASHER (BLW58)	4
24	4220-1012-01	5/8" NUT 11 NC (BNT58)	9
23	4220-1002-51	5/16" NYLOCK HEX NUT 18 NC (BNT516NL)	2
22	4210-5396-01	5/8" X 4-1/2" HEX CAP BOLT 11 NC G5 (BHC58X412)	1
21	4210-5410-01	5/8" X 6-1/2" HEX CAP BOLT (BHC58X612)	2
20	4260-1148-01	5/16" X 3" COTTER PIN (FCP516X3)	3
19	4210-5376-01	5/8" X 2" HEX CAP BOLT 11 NC G5 (BHC5)	4
18	4190-0012-25	80-8 HUB ASSY. (WHB80-8)	2
17	4180-1030-14	1/8" GREASE ZERK (FGZ18)	6
16	4120-1018-20	1/2" MP X 1/2" FP HYD SWIVEL ADAPTOR (HMFS12)	1
15	4120-1016-45	1/2 MB X 1/2 FP HYD SWIVEL 90 (HMBFS912)	4
14	4120-1016-00	1/2" MP X 1/2" MP HYD ADAPTOR (HM12)	1
13	4110-8020-00	1/2" CARBON STEEL BALL VALVE (HBV12)	1
12	4110-4098-01	4" X 1 1/2" X 2" STROKE HYD CYL (HCY4X1 1/2X2)	4
11	4110-4090-01	4 X 8 X 2" STROKE HYD. CYL. (HCY4X8X2)	1
10	CA12010012C	LOCK FOR CYLINDER	3
9	DS99020001C	HINGE PIN	2
8	AB16010008C	6-5/8" LONG PIN	1
7	CA08010005C	80-8 SPINDLE (WSP 80-80)	2
6	CA12010004C	1/2" WASHER	2
5	CA12010700W	PIN FOR HINGE	2
4	AB16010600W	WEIGHTBOX ASSEMBLY	1
3	AB99020001C	PIVOT PIN FOR RR STEER	1
2	AB99020200W	REAR END FRAME	1
1	AB99020100W	REAR STEER	1
ITEM	PART #	DESCRIPTION	QTY.

UNLESS OTHERWISE SPECIFIED		GARFIELD MATERIAL SPECIFICATION:		THE INFORMATION CONTAINED IN THE DRAWING IS EXCLUSIVE PROPERTY OF GARFIELD EQUIPMENT, ISSUED IN STRICT CONFIDENCE AND SHALL NOT, WITHOUT THE PRIOR WRITTEN PERMISSION OF GARFIELD EQUIPMENT BE REPRODUCED, COPIED OR USED FOR ANY OTHER PURPOSE WHATSOEVER, EXCEPT THE MANUFACTURE OF ARTICLES FOR GARFIELD EQUIPMENT.		
DIMENSIONS IN INCHES		MISCELLANEOUS				
X	±0.060	WEIGHT:	1703.65 pounds	SURFACE:	44573.81 in <sup>2</sup>	DESCRIPTION: GRADER BLADE. REAR STEER TO 1400 AND 1600
.XX	±0.030	TREATMENT:		FINISH:		
.XXX	±0.010	SCALE: 1:30		SHEET: 1 FROM 1		REVIEW: R00
FRACTIONAL ANGLES	±1/16	DESIGNED BY: GARFIELD EQUIPMENT				PART NUMBER: AB99020000A
	±1°					SIZE: A

REV	DATE	ECN	FIRST EMISSION	NICOLAS AZORIN	NICOLAS AZORIN