

Technical Manual

Project Department

Equipment.....

Invoice Information.....

Client.....

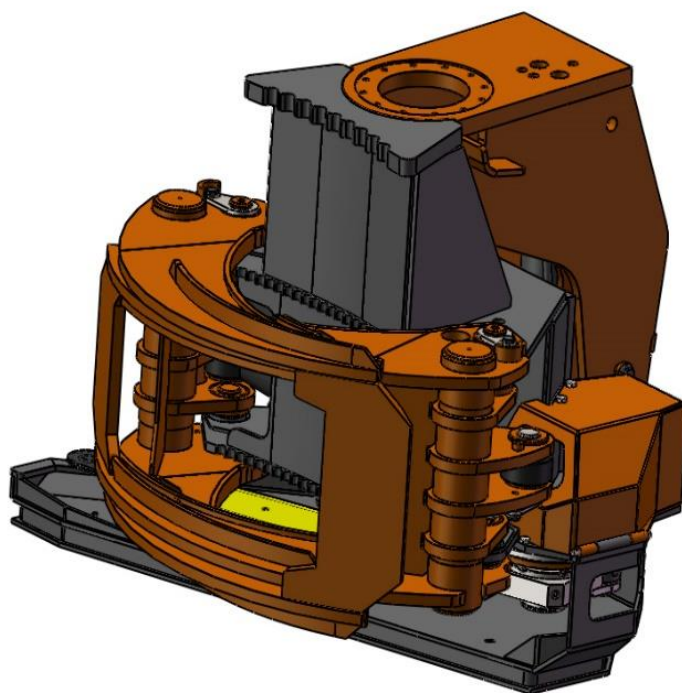
Manufacturing.....

Series.....

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JdeSouza Felling Head model MJ800



Maintenance and Parts Manual

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Safety Precautions

Safety precautions are designed to properly guide and instruct who operates the equipment and those who are in charge of its maintenance.

The results of a maintenance inspection must be properly assessed so that the equipment can be delivered to the operator after confirmed that it is in good working condition. When the equipment is operated the same precautions must be taken both in operation as well as in maintenance.

Important:

1. Do not change set-ups without the need or without adequate knowledge of the working pressures of the saw unit;
2. Before any kind of maintenance, return the saw bar to the end of stroke of the hydraulic cylinder. Once this is done turn off the machine engine to be able to service the cutting system;
3. After the first eight hours of work retighten all the screws of the unit and repeat the same procedure after fifty hours of operations, keeping them tight so as not to cause some kind of breakage;
4. All equipment used in maintenance must be removed and placed far away from the saw unit, so that you can safely return to work;
5. Periodically inspect the hydraulic bar cylinder, as a possible disruption of some repair may cause further damage to your cylinders and consequently to your cutting system;
6. The person in charge of maintenance must ensure that the saw unit and its components work under total safety conditions.

SAFETY FIRST!

Manufacturer's Letter

In this manual you will find information for the basic maintenance of your JdeSouza equipment. All components have a reference and it is very important to know them for purchasing spare parts or for inventory purposes. They may be purchased as follows:

Reference components:

- Initials "**JSxxxx**": Are parts manufactured by the company JdeSouza and must be ordered to JdeSouza's distributors and/or dealers.
- Initials "**EDxxxx**": Are usually screws, nuts, bars, bearings, shaft rings, hole rings, etc., usually manufactured by large international companies and largely available in local hardware shops.
- Initials "**EHxxxx**": Are motors, seals, etc. They can be ordered from J de Souza or any establishment specialized in hydraulic components or bolts and bearings, using the same commercial specification/model that is used in this technical manual.

JdeSouza may make modifications without previous communication, as it constantly seeks technological improvements to ensure the best quality product. Our equipment may undergo design adjustments due to the needs of our customers, aiming to gain competitiveness and productivity in the market we operate.

For further information please feel free to contact your local JdeSouza dealer or our customer service department (instructions in the second page of this manual) to clarify possible questions about how to proceed to purchase new components for your equipment.

Please before any maintenance, to ensure you understand the full process and its steps, read the entire manual once, and then you can pinpoint to your specific need.

We appreciate your preference for JdeSouza forest equipment, we remind you that these products were designed and manufactured in Brazil, to withstand the most severe conditions of a forest, being the ideal partner for your machine to succeed!

EQUIPMENT THAT SUPPORTS THE RIGOR OF THE FOREST!

Equipment and Components - Warranty

JdeSouza guarantees the equipment against defects from manufacturing as shown in the table below:

Assembly Components	Warranty Term
Structure, pins and bushings	240 (two hundred and forty) days
Motors	180 (one hundred and eighty) days
Cylinders	120 (one hundred and twenty) days
Gears and pinion gears	90(ninety) days
Bearings	90(ninety) days
Seals, Retainers	90(ninety) days

Important:

Any part that presents defects must be sent to your master dealer/distributor for a first analysis. Depending on the results of the first inspection, a second opinion from our factory must be needed. For these cases claims must be accompanied by a report with the following information:

1. Equipment series and model;
2. Part name and its reference;
3. Number of hours worked;
4. Model of the base machine on which the equipment is attached;
5. Apparent cause or reason of part defect;

Through analysis of the technical data JdeSouza will make a diagnostic on the part or equipment and will issue an opinion regarding the coverage or not under warranty.

PROVEN QUALITY ASSURANCE!

Maintenance and Transportation

This topic is designed so that your equipment performs better not only in its operation, but also in its maintenance, as such care as cleaning and transportation of your equipment should be viewed more carefully by its operators and maintainers so that your equipment has a longer longevity.

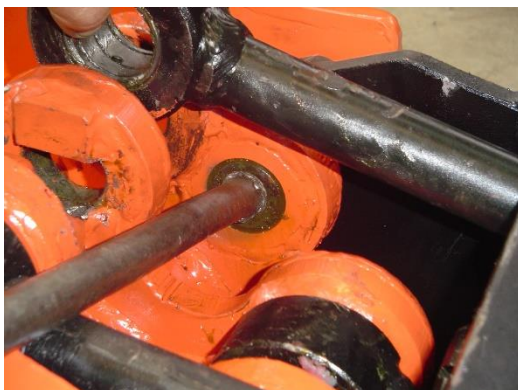
Important:

1. Keep the internal area of the equipment as free of dirt or wood chips as possible, so that it does not hinder the operation of your hydraulic cylinder. A daily checkup and/or cleaning is recommended;
2. Keep the external area of the equipment where the rotator is located as clean as possible so it freely rotates;
3. After the end of each daily operation, remove the internal pressure from the hydraulic cylinders;
4. If you plan to move your equipment to another machine, transport must be done cautiously, with the attachment thumbs closed and with the saber retracted into the housing, placing a protection on the chrome rod, so that it is not left unprotected in a possible impact;
5. Keep the equipment as clean as possible so that it has an even longer life, as the entry of some dirt in the internal parts of its hydraulic cylinders can result in a lower than normal performance or even breaking the equipment;
6. Periodically inspect the entire hydraulic system (motor; hydraulic cylinders, valves, hoses, saw bar, pins, hubs and connections) checking for any hydraulic leak or cracks and keeping the equipment as clean and safe as possible.

HIGH DURABILITY EQUIPMENT!

Disbanding the grapple

To disband the grapple first take out the cylinders and stabilizing rods, as shown below.



Disbanding Cylinders and Stabilizing thumbs rods

To remove the cylinders and rods please check best process below.



Grapple lubrication

To ensure the longevity of the grapple components it is extremely important that you keep a preventive lubrication. The lubrication must be done after every 12 hours of operations, double checking if there is no broken or loose bolt, lack of proper lubrication can cause those damages.

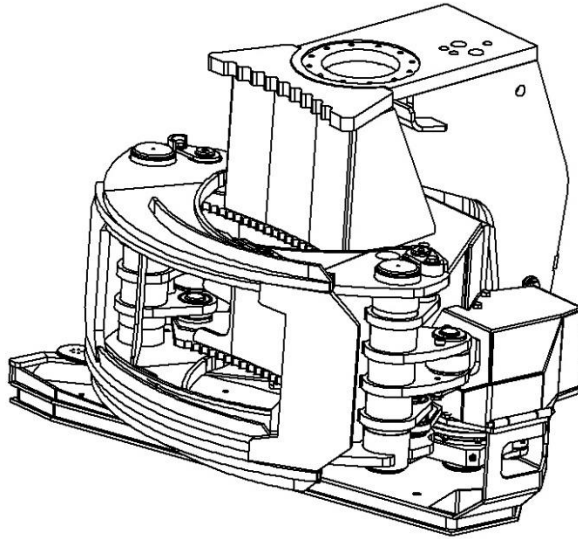


Manufacturer Recommendations

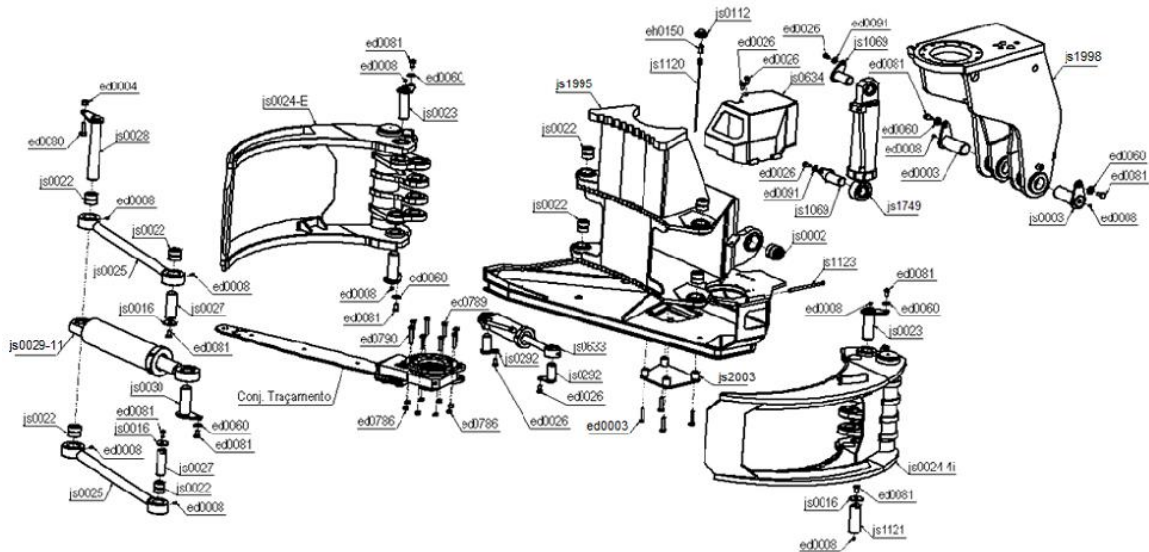
1. Lubricate regularly the equipment through the lubrication fittings;
2. When new, after your first 8 hours of operation check for loosing bolts since they can get settled. Repeat the procedure after 50 hours and from there regularly with your preventive maintenance;
3. When not in use we recommend that you keep the thumbs open, this way you don't compromise the cylinders life span;
4. Please avoid hard impacts on the articulations, between the cylinders and the thumb eyes;
5. In no circumstances operate or test the equipment without the motor protection/cover, check if it is properly closed and locked;
6. Don't make any changes on the equipment without prior consultation and approval to the manufacturer;
7. We strongly recommend not to use the equipment for tapping logs on piles, these shocks can impact the longevity of the machine and its components;
8. It is important to operate within the manufacturer recommended pressure and flow recommendations.

Technical specs MJ800		
Weight	2,712 lb (1,230 Kg)	
Max Area	6.24 ft² (0,58 m²)	
Min closing	7.48 in (190 mm)	
Max opening	78.74 in (2000 mm)	
Recommended saw bar	11H from 36" to 45"	
Chain tensioner	Hydraulic	
Chain lubrication tank	5.28 gal (20 L)	
Recommended motor flow	53 gal/min (200 l/min.)	
Recommended pressures:		
Motor F12.060	4350 PSI (220 ~ 300 bar)	
Chain cylinder tensioner	341 PSI (22 ~ 35 bar)	
Lubrication Cylinder	1015 PSI (40 ~ 70 bar)	
Saw bar cylinder	Open	1015 PSI (70 ~ 110 bar)
	Close	653 PSI (40 ~ 70 bar)
Thumbs cylinder	Open	2030 PSI (120 ~ 140 bar)
	Close	3410 PSI (170 ~ 235 bar)
Max pressure	Close grapple	3844 PSI (265 bar)
Twilt cylinder	Close cylinder	2176 PSI (150 bar)

MJ800 Felling Head Assembled view



MJ800 Felling Head Disbanded view



MJ800 Felling Head Components

Reference	Amount	Component Description	Standardized Business Specification
js1995	1	Main body	
js1998	1	Twilt body	
js0002	2	Main body twilt bushings	
js0022	8	Main body thumbs bushings	Ø60xØ70x54
js0023	3	Head and thumbs articulation upper pins	Ø50x162mm
js1121	1	Head and thumbs articulation lower pins	Ø50x145mm
js0016	3	Pin washers	
js0024-4I	1	Inner thumb	
js0024-E	1	External thumb	
js0025	2	Stabilizing arms	
js0027	2	Thumbs articulation pins	
js0028	1	Thumb cylinder pin	
js0029-11	1	Thumbs cylinder	
js0030	1	Cylinder and thumb articulation pin	Ø50x160mm
js0112	1	Lubrication tank cap	
js0292	2	Saw bar cylinder pin	Ø40x97mm
js1069	2	Twilt cylinder pin	Ø45x110mm
js1749	1	Twilt cylinder	
js1411	1	Saw bar cylinder	
js0217	1	Lubrication cylinder	
js0003	2	Column articulation pin	
js0634	1	Motor protection body	
ed0008	16	Lubrication fittings	5/16"
ed0080	1	Bolt	5/8"x 2" R.G G8
ed0081	9	Bolts	5/8"x 1" R.G G8
ed0004	1	Nut	5/8" R.G
ed0060	6	Washers	5/8" R.G
js2003	1	Lower cap saw bar body MJ800/MJ580	
js1999	1	Flap connector kit MJ800/MJ580	
js2000	1	Flap connector pin	
js1948	2	Drive connector	Fem. 1.5/8" x Male 1.5/16" JIC
js1947	3	Drive connector	Fem. 1.1/4" x Male 3/4" JIC
eh0865	2	Rotation connector	1.1/16" JIC
eh0864	3	Rotation connector	3/4" JIC
js1645	1	Cylinder drive plate seal	
js0395	1	Air connector tank	9/16" JIC x 1/4" NPT
js1355	1	Air connector valve tank	3/4" UNF x 1/4" NPT
js0779	1	Valve protector	
js2341	1	Air tank	

Reference	Amount	Component description	Standardized Business Specification
MJ800	1	Felling head	
js0214	1	Retention washer	
js0635	1	Motor Flange F12.060	
js0582	1	Flange Spacer MJ580	
js0213	1	Rotation body	
js0218	1	Base plate js180B	
js0218-2	1	Base plate match js180A	
js0216	2	Chain protector	
js0111-2	2	Bolts to JS0218	1"-14Fpp
js0119-2	1	Motor Striatum F12.060	
js0120	1	Pinion 9 teeth H11	
js0244	1	Engine block F12.060 TJPG	
js0217-2	1	TJPG Stretcher Cylinder	
js1374	1	Distribution valve	1 5/16" JIC male x 7/8" BSP 14fpp
eh0159	1	Motor F12.060	
eh0145	1	Valve	N400S
eh0140	1	Valve	F400S
eh0148	2	Valve	C400S
eh0196	1	Valve	C800S
eh0150	1	Lubrication Tank Cover Check Valve	
ed0022	2	Bearing	6010-2RS
ed0013	1	Bearing	16022
ed0023	1	Bearing	6020-Z
ed0043	1	Retainer	Ø160xØ130x12 REF 1193
ed0077	4	Distribution and motor valve plug	1/4" NPT
ed0157	1	Bar	11H 45"
ed0180	1	Chain	11H bar 34 chisel
ed0603	1	Bar	11H 36"
ed1111	1	Chain	11H bar 28 chisel
ed0753	8	Rotator bolts	Hexagon 5/8x3.1/2" R.G G8
ed0041	2	Rotator bolts	Hexagon 5/8x2.1/2" R.G G8
ed0050	2	Motor protection bolts	Hexagon 1/2"x1" R.G G8
ed0225	5	Flange bolts	Hexagon 1/2"x2.1/2" R.G G8
ed1061	16	Motor bolts	Hexagon 1/2"x1.3/4" R.G G8
ed0855	8	Motor Allen bolts	3/8" X 1.3/4" 16 fpp G8
ed0050	2	Swivel Plate Pin Fixing Screws	Hexagon 1/2"x 1" R.G G8
ed0093	6	Pinion Fixing Screws	Allen 5/16"x1" R.G G8
ed0093-2	1	Lubrication Cylinder Fixing Screws	Hexagon 5/16"x1" G8
ed0775	3	Flange screws	Hexagon 1/2"x3.1/2" R.G. G8
ed0778	2	Area reduction add-on bolts	Hexagon 3/4"x4" R.G. G8
ed0763	2	Area reduction add-on nuts	3/4" R.G. self-lock
js0813	2	Connections	7/8" JIC x 1/2" NPT

Felling Head Components MJ800

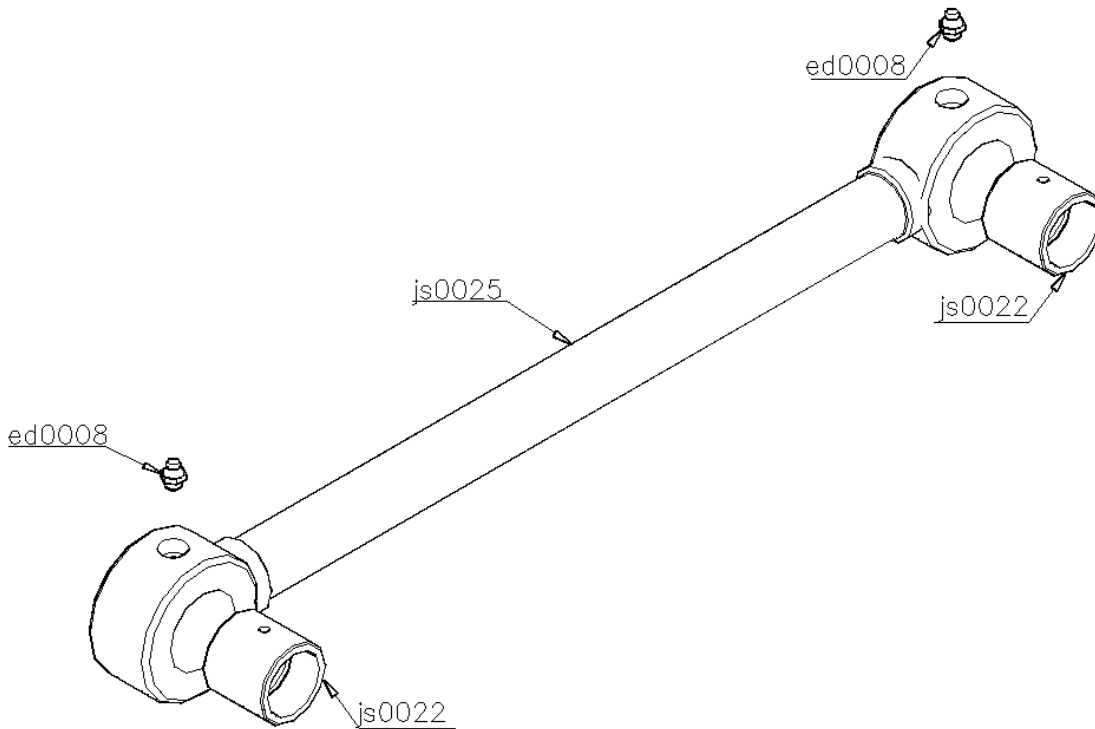
Reference	Amount	Component description	Standardized Business Specification
ed1061	8	Area reduction add-on bolts	Hexagon 1/2"x1.3/4" x R.G. G8
js0783	1	Motor protection pin	
ed0055-2	2	Cotter pin	3/16"x2.1/2"
ed0956	2	Pasteis stop bolts	Allen 1/2"x1" R.G. G8
ed0208	6	Retentor cap screws	Allen 1/4"x3/4" R.G. G8
eh0153	4	Oring Motor block	2217 (Parker)
eh0096	2	Pasteis oring set	2012 (Parker)
ed1267	2	Self-lock nuts	1"-14Fpp
ed0065	1	Axis ring	Ø50
ed0067	1	Axis ring	Ø100
ed0120	1	Ring	Ø80
ed0073	11	90° adaptor	06 04 (9/16" 18 fpp X 1/4"NPT)
ed0654	3	90° adaptor	08 08 (7/8" 14fpp Macho x 1/2"NPT)
js0395	2	Fittings	9/16" JIC Macho x 1/4"NPT Macho
js0396	1	Fittings	9/16" JIC Macho x 1/4" NPT (Reduzida)
js0399	1	Fittings	1 5/16" JIC Macho x 7/8" BSP 14fpp
js0807	1	Retention valve fitting	½"NPT x 7/8" UNF (14fpp)
js0400	4	Pass-through Connections	9/16" JIC Macho x 9/16" JIC Macho
js0420	2	Pass-through Connections	7/8" JIC Macho x 7/8" JIC Macho
js0796	1	Bronze washer	Ø14,5xØ22x1mm
js0794	1	Bronze washer	Ø22,3xØ32x4mm
ed1251	2	Nuts	1 1/4" 12fpp
ed0879	2	Pass-through Connections nut	1"
ed0684	3	Nut	7/8" UNF (14fpp)
ed0663	1	Adaptor side TEE	3/4"
js2012	1	Tecnil simplified set	
ed0003	4	Hexagon screw	5/8"x1.1/2" R.G. G8
ed0080	4	Hexagon screw	5/8"x2" R.G. G8
ed0191	4	Nut	5/8" R.F.
ed0685	2	Pass-through Connections nut	1.1/2"
js1120	1	Dip rod	
ed0786	16	Torque nut	1/2"
js1928	1	Chain change tool	
ed0557	4	Nut	5/8" R.G. self-lock
js0795	2	Connections washer	
js0753	2	Tap	Female 1.1/16" JIC (BFJSE-12)
js0755	3	Tap	Female 3/4" JIC (BFJSE-08)
ed0543	2	90° adaptor	1/4" NPT x 1/4" NPT (LMNMN-04-04)
ed0750	2	Straight adaptor	9/16" x female 1/4" NPT
js1598	1	Lower grapple expander	
js1599	1	Column body expander	

Felling Head Components MJ800

Reference	Amount	Component Description	Standardized Business Specs
eh0531	1	Hose 3/8" x 335mm straight 9/16" JIC x straight 9/16" JIC (Bottom)	Bar activation
eh0532	1	Hose 3/8" x 480mm straight 9/16" JIC x straight 9/16" JIC (Bottom)	Bar return
eh0533	1	Hose 1/4" x 845mm 90° 9/16" JIC x 90° 9/16" JIC (Bottom)	Chain lubrication
eh0534	1	Hose 1/4" x 775mm straight 9/16" JIC x 90° 9/16" JIC (Bottom)	Chain tensioner
eh0535	1	Hose 3/8" x 580mm straight 9/16" JIC x 90° 9/16" JIC (Top)	Cutting activation
eh0536	1	Hose 1/4" x 620mm straight 9/16" JIC x 90° 9/16" JIC (Top)	Chain tensioner
eh0537	1	Hose 1/4" x 235mm straight 9/16" JIC x 90° 9/16" JIC (Top)	Lubrication cylinder activation
eh0538	1	Hose 1/4" x 510mm straight 9/16" JIC x 90° 9/16" JIC (Top)	Lubrication cylinder / Valve
eh0539	1	Hose 1/4" x 500mm straight 9/16" JIC x 90° 9/16" JIC (Top)	Tank / Lubrication cylinder
eh0540	1	Hose 3/8" x 1210mm 90° 9/16" JIC x straight 3/4" JIC (Top)	Bar return
eh0541	1	Hose 1/2" x 760mm 45° 3/4" JIC x straight 7/8" JIC (Top)	Twilt activation
eh0732	1	Hose 1/2" x 760mm 45° 3/4" JIC x 90° 7/8" JIC (Top)	Twilt return
eh0542	2	Hose 1/2" x 1560mm 90° 7/8" JIC x 90° 7/8" JIC	Grapple rotation
eh0543	1	Hose 1/2" x 1190mm straight 7/8" JIC x 45° 3/4" JIC	Motor drain
eh0544	1	Hose 1/2" x 870mm straight 7/8" JIC x straight 7/8" JIC (open grapple)	Fitting/grapple cylinder
eh0545	1	Hose 1/2" x 950mm straight 7/8" JIC x 90° 7/8" JIC (close grapple)	Fitting/grapple cylinder
eh0547	1	Hose 3/4" x 1160mm 45° 1.5/16" JIC x straight 1.5/16" JIC	Motor pressure
eh0548	1	Hose 3/4" x 1150mm straight 1.5/16" JIC x 45° 1.5/16" JIC	Motor return

Thumbs parts js0025

Reference	Amount	Component Description	Standardized Business Specification
js0022	4	Thumbs bushings	
ed0008	4	Greaser	5/16"

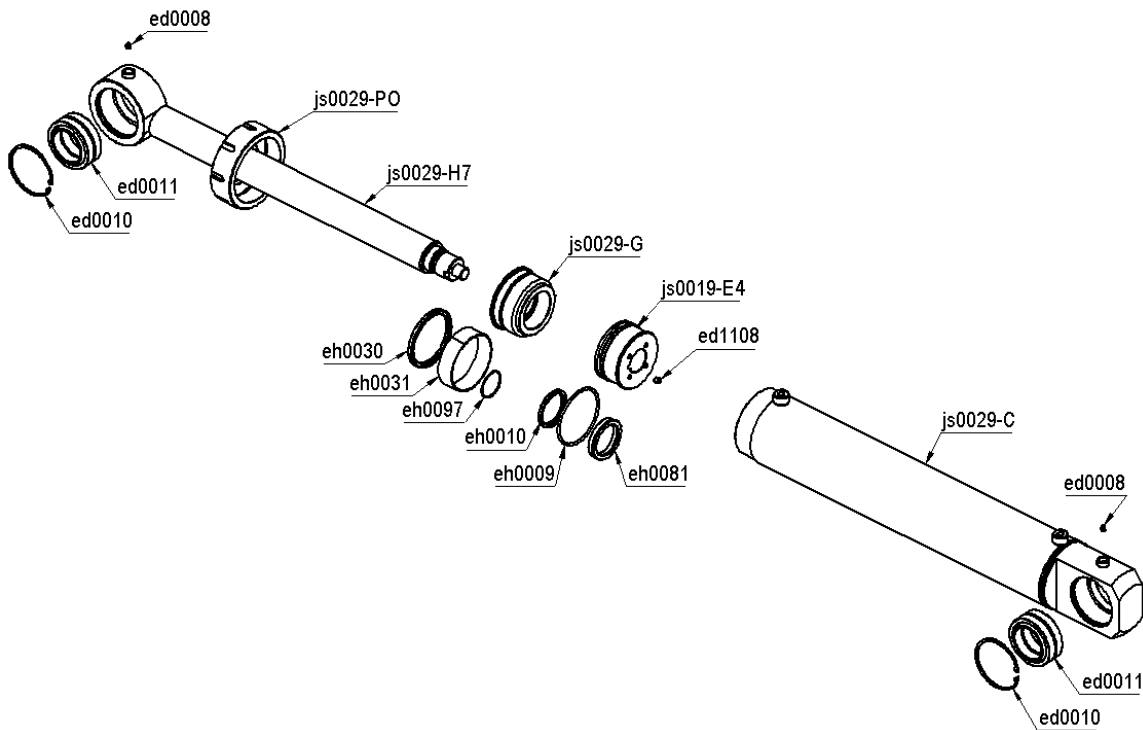


Cylinder parts - js0029-11

Reference	Amount	Component Description	Standardized Business Specification
js0029-C	1	Cylinder tube	Ø114,3 X Ø132
js0019-E4	1	Piston head	
js0029-G	1	Piston bearing head	
js0029-H7	1	Rod	Ø2 1/2"
js0029-PO	1	Cylinder nut	
ed1108	1	Screw	1/2" x 1/2"
eh0085	1	Cylinder seals js0029-7	
ed0011	2	Pivot bushings	GE 50
ed0010	2	Oring	Ø75
ed0008	2	Grease plug	5/16"

Parts of eh0085

Reference	Amount	Component Description	Standardized Business Specification
eh0030	1	Rod wiper	9X-7269 (Caterpillar)
eh0031	1	Bushing	4J-3745 (Caterpillar)
eh0081	1	Rod wiper	3120-2500-500 (Parker)
eh0009	1	Oring	2244 (Parker)
eh0097	1	Oring	2136 (Parker)
eh0010	1	Rod seal	D-2500 (Parker)



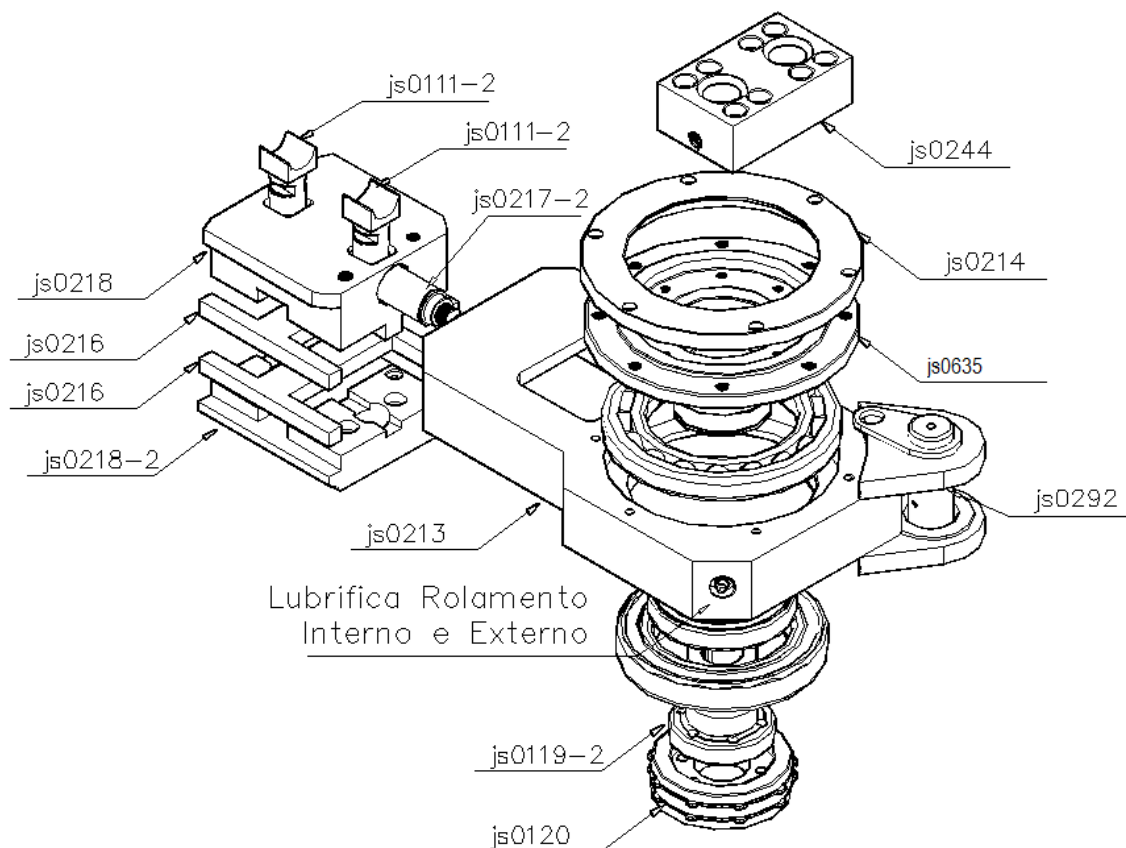
Saw bar motor lubrication

To make sure that the motor have a long life it is very important that you lubricate once at every 40 hours of operations. You should use between 0.7oz and 0.9oz (20g to 25g) of Lithium grease, lubricating the inner and outer bearings of the motor shaft.



Tracer Cutting System

Reference	Amount	Component Description
js0214	1	Retentor cap
js0635	1	Motor flange F12.060
js0213	1	Block
js0218	1	Pastel guide
js0218-2	1	Pastel backrest
js0216	2	Chain protectors
js0111-2	2	Screws
js0119-2	1	Motor Striatum F12.060
js0120	1	Pinion Z= 9 teeth
js0217-2	1	TJPG Stretcher Cylinder
js0244	1	Motor block
eh0159	1	Motor F12.060
ed0157	1	Bar 11H 45"
ed0603	1	Bar 11H 36"
ed1111	1	Chain 11H bar 36" 28 chisel
ed0180	1	Chain 11H bar 45" 34 chisel

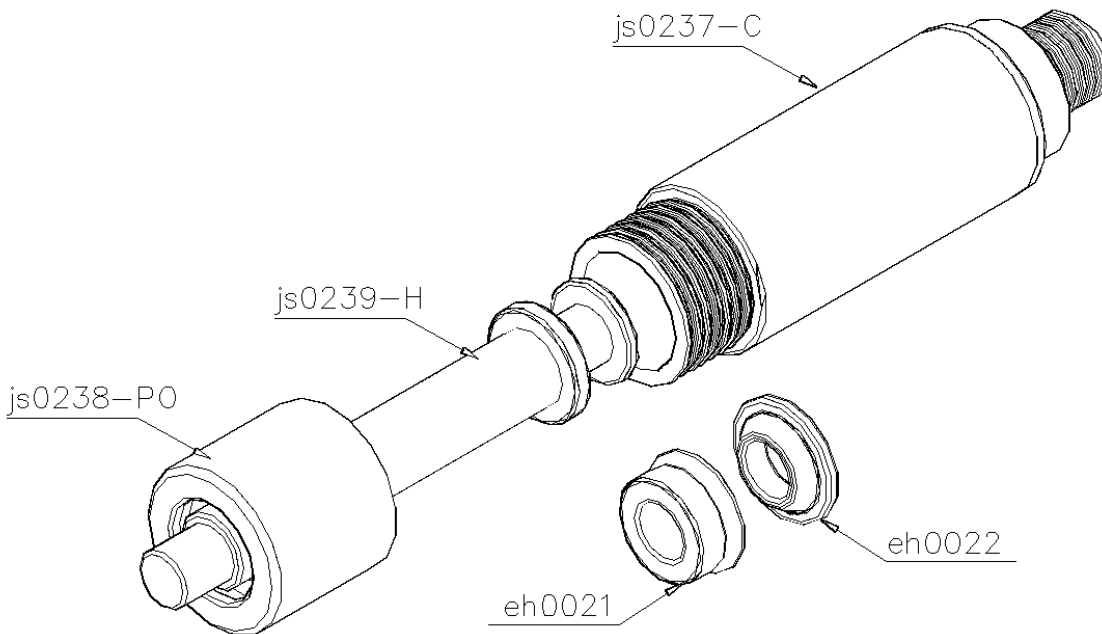


Tension cylinder parts - js0217-2

Reference	Amount	Component Description
js0237-C	1	Cylinder tube
js0238-PO	1	Cylinder nut
js0239-H	1	Rod
eh0155	1	Cylinder seal set js0217-2

Parts from eh0155

Reference	Amount	Component Description	Standardized Business Specification
eh0021	1	Cylinder tube	1870-0375-312 (Parker)
eh0022	1	Bushing	D-500 (Parker)

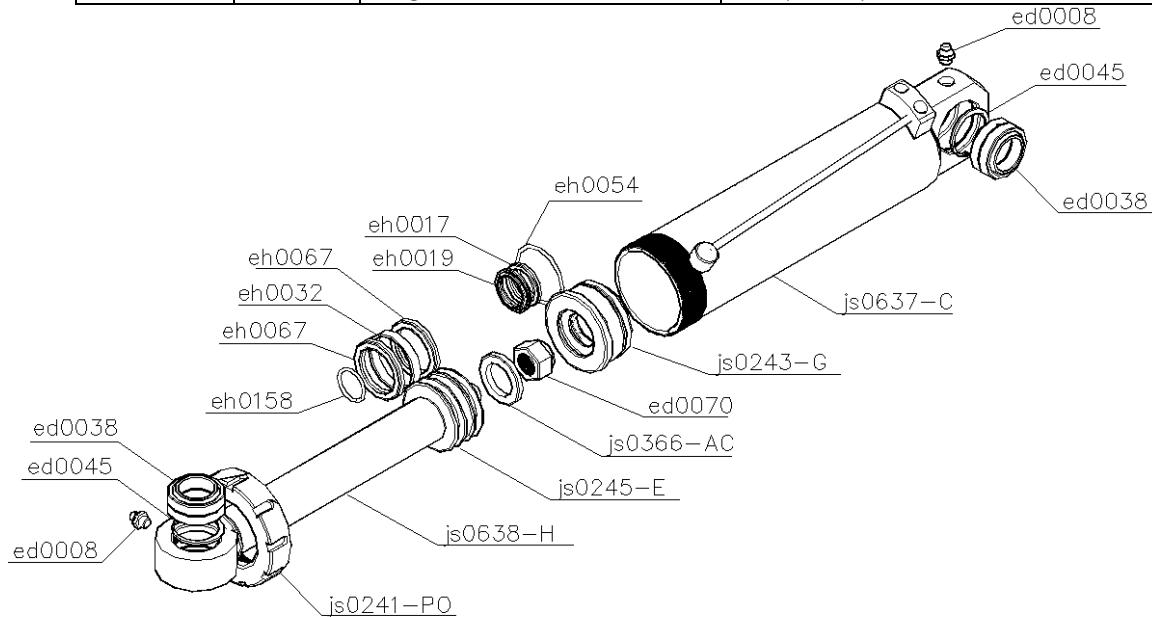


Bar cylinder activation parts - js0633

Reference	Amount	Component Description	Standardized Business Specification
js0637-C	1	Cylinder tube	Ø92xØ76,2
js0243-G	1	Head	
js0241-PO	1	Cylinder nut	
js0638-H	1	Rod	Ø1 1/4"
js0245-E	1	Seal	
js0366-AC	1	Cylinder washer	
ed0070	1	Self-locking nut	5/8"
ed0045	2	Oring	Ø 62
ed0038	2	Bearings	GE 40
eh0156	1	Cylinder Seals js0633	
ed0008	2	Greaser	5/16"

Parts of eh0156

Reference	Amount	Component Description	Standardized Business Specification
eh0067	2	Gasket	3120-2375 (Parker)
eh0017	1	Gasket	1870-1250-312 (Parker)
eh0032	1	Guide	W2-3000-500 (Parker)
eh0019	1	Scraper	D-1250 (Parker)
eh0054	1	Oring	2232 (Parker)
eh0158	1	Oring	2116 (Parker)

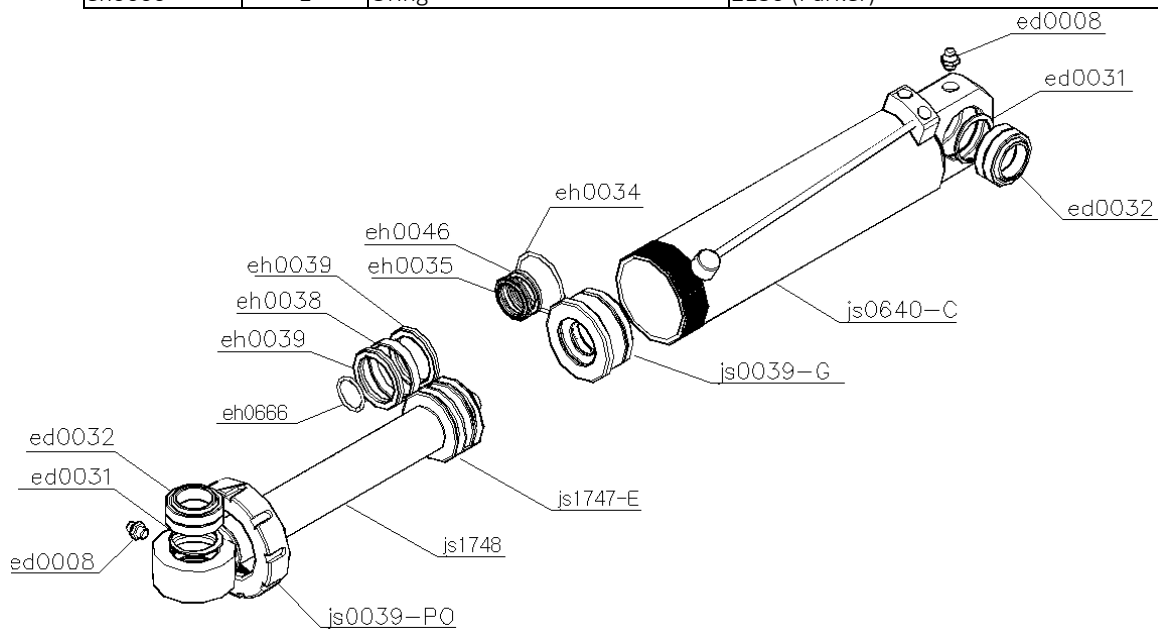


Twilt cylinder activation parts js1749

Reference	Amount	Component Description	Standardized Business Specification
js0640-C	1	Cylinder tube	Ø101,6xØ118
js0243-G	1	Head	
js0241-PO	1	Cylinder nut	
js1748	1	Rod	Ø2"
js1747	1	Washer	
ed1118	1	Screw	3/8"x1/2"
ed0031	2	Oring	Ø 68
ed0032	2	Bearing	GE 45
eh0036	1	Cylinder Seals js1749	
ed0008	2	Greaser	5/16"

Parts of eh0036

Reference	Amount	Component Description	Standardized Business Specification
eh0039	2	Bushing	3750-3250 (Parker)
eh0046	1	Bushing	2500-2000-375 (Parker)
eh0038	1	Guide	W2-4000-500 (Parker)
eh0035	1	Washer	D-2000 (Parker)
eh0034	1	Oring	2240 (Parker)
eh0666	1	Oring	2130 (Parker)

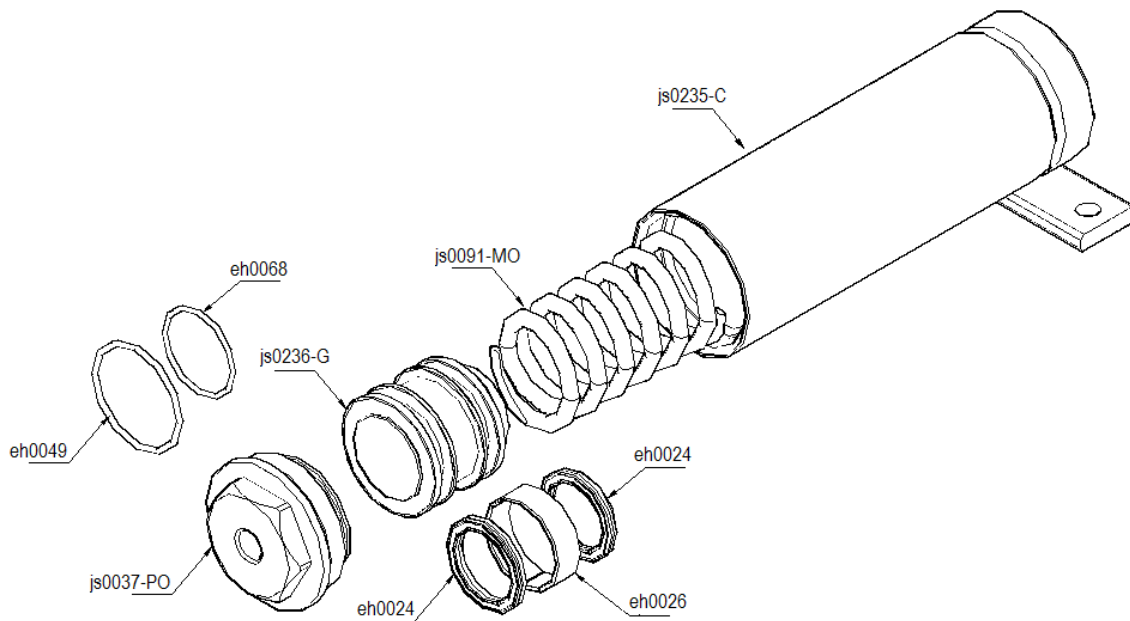


Lubrification cylinder parts - js0217

Reference	Amount	Component Description
js0235-C	1	Cylinder tube
js0236-G	1	Rod
js0237-PO	1	Cylinder nut
js0091-MO	1	Cylinder lubrication spring
eh0154	1	Cylinder seal set js0217

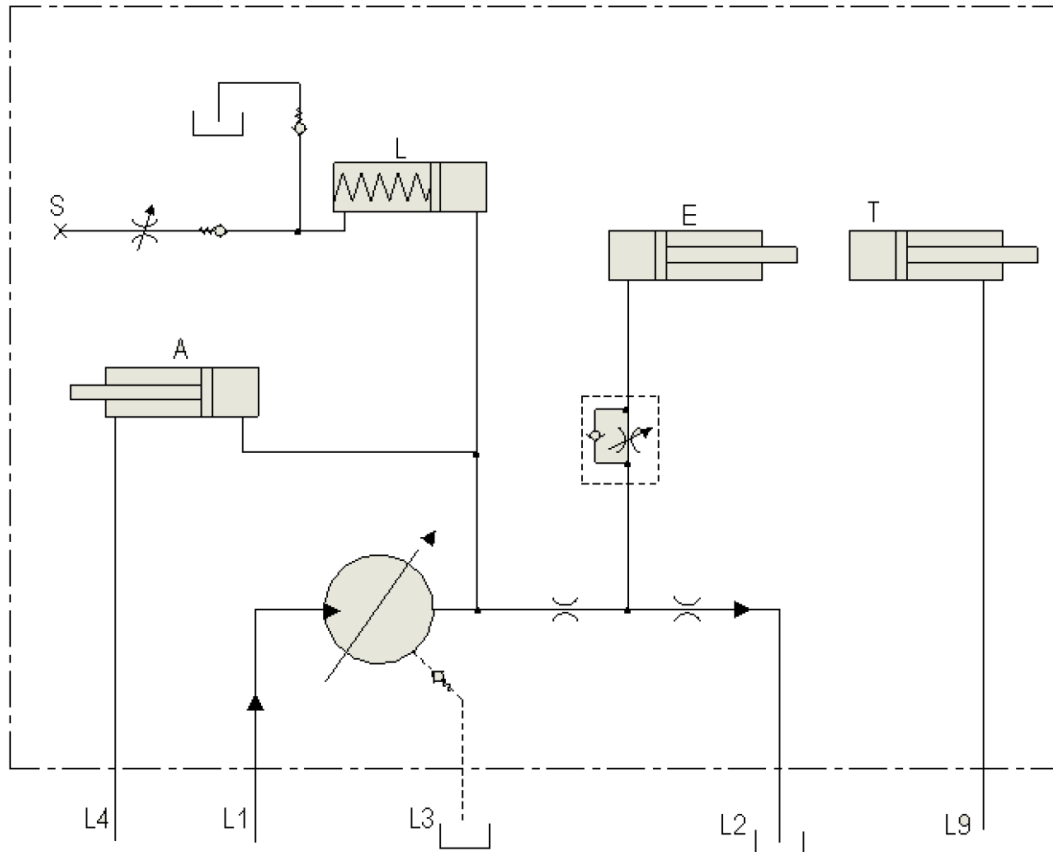
Parts of eh0154

Reference	Amount	Component Description	Standardized Business Specification
eh0024	2	Bushing	1870-1375 (Parker)
eh0049	1	Oring	2131
eh0026	1	Guide	W2-1750-500 (Parker)
eh0068	2	Oring	2127 (Parker)



Hydraulic circuit

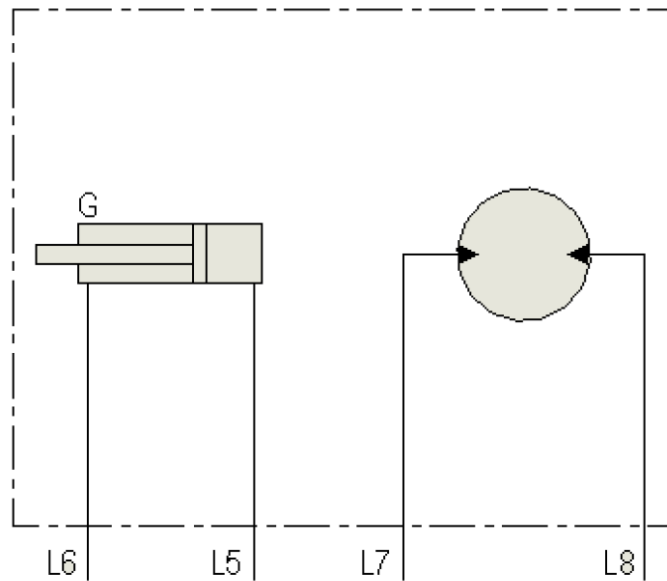
Multifunctional Head Hydraulic Circuit



- A - Saw cylinder;
- L - Chain lubrication cylinder;
- E - Chain tensioner cylinder;
- S - Lube oil outlet point;
- T - Twilt cylinder;

- L1 - Pressure line;
- L2 - Return line;
- L3 - Case drain line;
- L4 - Nitrogen pressure line;

Hydraulic Circuit Grapple JdeSouza



- G - Grapple cylinder;
- L5 - Closed grapple line;
- L6 - Open grapple line;
- L7 - Left rotator;
- L8 - Right rotator;
- L9 - Twilt MJ800 cylinder;