471 INDUSTRIAL AVE.
RIPON, CALIF. 95366
PHONE (209) 599-6118

JACKRABBIT

OWNER'S – OPERATOR'S MANUAL

JUMPING JACK ELEVATOR – JJL 490

20/20 ELEVATOR

20/30 ELEVATOR
WITH WOODCHUCK DESTICKER
& REMOTE CONTROL

Phone (209) 599-6118 Fax (209) 599-6119
E-mail sales@jackrabbit.bz or info@jackrabbit.bz

10/18/10

TO OUR CUSTOMERS:

Thank you for choosing JackRabbit. We stand behind our products and are very proud of the equipment we design and manufacture. Preventive maintenance is the easiest and least expensive type of maintenance. Please take the time to review this Owner's Operator's Manual it can save you time and expense.

WARRANTY

JACKRABBIT warrants each new piece of equipment and parts manufactured by it to be free from defects in material and workmanship under normal use and service. The obligation of JACKRABBIT shall be limited to replacing any part which shall, within 1 year (1 season) after delivery to the original purchaser, be returned to JACKRABBIT with transportation charges prepaid and which an examination by JACKRABBIT discloses defective. This Warranty does not obligate JACKRABBIT to bear the cost of labor, travel time or hauling in connection with the replacement or repair of the defective parts and in no event will be liable for consequential damages including but not limited to loss of crop, rental or substitute equipment or other commercial loss.

No warranties or representations made by persons other than representatives of JACKRABBIT expressly authorized in writing to do so shall be valid and binding upon JACKRABBIT. No dealer shall be authorized to bind JACKRABBIT in this respect.

JACKRABBIT makes no warranty with respect to component parts not manufactured by JACKRABBIT. This warranty shall not apply to any equipment which has been altered in any way outside of manufacturer's factory, or which has been subject to misuse, neglect or accident.

This warranty is expressly in lieu of all other warranties and representations, expressed, implied, or statutory, including warranties of merchantability and fitness for a particular use, and all other liabilities or obligations on the part of JACKRABBIT, foreseeable or not.

USER'S RESPONSIBILITY

It is the responsibility of the user to read the Operator's Manual and understand the safe and correct operating procedures as pertains to the operation of the product and to lubricate and maintain the product according to the maintenance schedule in the Operator's Manual.

WARRANTY SERVICE

Warranty service may be obtained through an authorized dealer or JackRabbit service facility. Write or call: JackRabbit, 471 Industrial Ave, CA 95366, telephone (209) 599-6118

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SECTION A
SAFETY INSTRUCTIONS

IMPORTANT SAFETY NOTICE

Improper practices or carelessness can cause bodily injury or death.

Always instruct the operator in proper operating procedures. The operator must read and understand all safety instructions in the Owner's Operator's Manual and those placed on the JJ490 elevator.

SAFETY INSTRUCTIONS

1. **Danger: Always check and make sure elevator's operational site is a safe distance from power lines.**

2. **Danger: Operational site should be level to prevent tipping of the unit during operation.**

3. **Warning: All guards must be in place prior to starting the elevator or Wood Chuck.**

4. **Warning: Always check, making sure all personnel are clear of elevator prior to starting engine.**

5. **Danger: The belts and WoodChuck will be started and stopped unexpectedly when the engine is running. Keep all personnel clear of belts, WoodChuck fingers and moving parts when the engine is running.**

   See page 8 item 2 for remote control information.

6. **Danger: Stop belts and WoodChuck, and turn off engine prior to clearing material from belts or Wood Chuck.**

7. **Warning: Turn off engine prior to tightening or adjusting belts (see page 18 for belt adjustments).**

8. **Warning: Turn off engine prior to tightening or adjusting WoodChuck chain.**

9. **Warning: Always wear protective eye goggles when checking for hydraulic leaks. Do not check hydraulic lines for leaks with your hands. High pressure oil leaking through a small hole with penetrate the skin. This will cause serious bodily injury or death.**

10. **Danger: Always check route to be traveled prior to towing the JJL490 elevator. Check the route for low electric power lines and other obstructions.**

11. **Warning: Always use a suitable tow vehicle. The vehicle must be designed to tow a unit weighing 7,000 lbs at speeds up to 55 mph.**

12. **Danger: Never tow the JJ490 elevator at a speed above 55 mph.**

13. **Danger: Never tow the JJ490 elevator on a public road or highway at night without lights.**

14. **Warning: Always use a safety chain when towing the JJ490 elevator.**

15. **Caution: Always check tires for damage and proper inflation prior to towing the JJ490 elevator.**

16. **Warning: Always lower incline conveyor prior to towing. Transit Link must be in place before towing.**

17. **Caution: Always replace safety labels and signs if they become illegible.**

INSTRUCCIONES DE SEGURIDAD

AVISO IMPORTANTE DE SEGURIDA

Uso incorrecto o descuido puede causar lesiones o muerte.

Siempre ensene al operador el procedimiento propio de operacion. El operador debe de leer y entender todas las instrucciones de seguridad en el manual de operactiony las reglas puestas en el JJL490 elevador.

INSTRUCCIONES DE SEGURIDAD

1. **Peligro: Siempre revise y este seguro que el sitio de operacion del elevador este localizado a una distanica segura de las lineas de conduccion electricas.**

2. **Peligro: El sitio de operacion debe de estar plano para prevenir que se incline la unidad cuando este en operaction.**

3. **Advertencia: Todas las guardias de ben de estar puestas antes de comenzar el elevador o Wood Chuck.**

4. **Advertencia: Siempre revise y este seguro que el parsonal este alejado del elevador antes de comenzar el motor.**

5. **Peligro: Las bandas y el WoodChuck se activarán y detendrán inesperadamente cuando el motor se encuentra en marcha. Mantener a todo el personal alejado de las bandas, los dedos del WoodChuck y las piezas en movimiento cuando el motor se encuentra en marcha.**

   Consulte la información de control remoto en la partida 2 de la página 8.

6. **Advertencia: Pare las bandas y Wood Chuck, y apague el motor antes de limpiar el material de las bandas o Wood Chuck.**

7. **Advertencia: Apague el motor antes de apretar y ajustar las bandas (vea en la pagina 18 para el ajuste de las bandas).**

8. **Advertencia: Apague el motor antes de apretar o ajustar la cadena del Wood Chuck.**

9. **Advertencia: Siempre use lentes de proteccion cuando revise goteras de acelte hidraulico. No revise las goteras de lineas hidraulicas con sus manos. Goteras de aceite con presion alta puede penetrar la piel. Esto puede causar heridas al cupero o la muerte.**

10. **Peligro: Siempre revise la ruta que va a ser recorrida antes de manejar el JJL490 a un sitio nuevo, para que no haiga lines de electricidad bajas y otros obstaculos.**

11. Advertencia: Siempre use un vehiculo de remolque apropiado. El vehiculo debe de estar discenado para remolcar una unidad que peso 7,000 libras a velocidades hasta 55 mph.

12. Peligro: Nunca remolque el JJL490 a vehocidades arriba de 55 mph.

13. Peligro: Nunca remolque el JJL490 en camino publicos o carreteras durante la noche sin luces.

14. Advertencia: Siempre use cadenas de seguridad cuando remolque el JJL490.

15. Advertencia: Siempre revise las llantas por danos y inflacion propias antes de remolear el JJL490.

16. Advertencia: Siempre baje el transporte inclinado antes de ser remolcado. La cadena de Transito Debe estar en el lugar apropiado antes de remolcar.

17. Advertencia: Siempre reemplaze las etiquetas y lateroros de seguridad si estan ilegibles.

SECTION B
SPECIFICATIONS

JUMPING JACK ELEVATORS – JJL 490
20/20

Product Transfer	**Two belts: horizontal belt in hopper feeds material onto inclined belt.**
Belt Width	**Horizontal: 20”** **Inclined 20”**
Belt Speed	**Variable horizontal belt speed**
Belt Drive	**Hydraulic motors**
Hopper	**Length – 192” width – 70”**
Length	**46.5’ overall**
Height	**Raised – 16’9”** **Lowered – 11’6” (in tow position)**
Spout Clearance	**Raised – 14’9”** **Lowered – 12’0”**
Width	**80”**
Weight	**3,800 lbs**
Tires	**(2) 7.50L – 16.0 LT**
Controls	**Pod mounted, adjustable**
Jack Stand	**Hydraulic**
Power	**Deutz diesel** **3 cyl D2011L03i**
WoodChuck Desticker	**Not available**

All Specifications subject to change without notice. For further information call JackRabbit at (209) 599-6118.

SECTION B
SPECIFICAIONS

JUMPING JACK ELEVATORS – JJL 490
20/30

Product Transfer	**Two belts: horizontal belt in hopper feeds material onto inclined belt.**
Belt Width	**Horizontal: 20”** **Inclined: 30”**
Belt Speed	**Variable horizontal belt speed**
Belt Drive	**Hydraulic motors**
Hopper	**Length – 192” width – 70”**
Length	**46.5’ overall**
Height	**Raised – 16’9”** **Lowered – 11’6” (in tow position)**
Spout Clearance	**Raised – 14’9”** **Lowered – 12’0”**
Width	**80”**
Weight	**4,200 lbs**
Tires	**(2) 7.50L – 16.0 LT**
Controls	**Pod mounted, adjustable**
Jack Stand	**Hydraulic**
Power	**Deutz diesel** **F3L2011F 3 cyl, F4L2011 4 cyl**
WoodChuck Desticker	**Optional**

All specifications subject to change without notice. For further information call JackRabbit at (209) 599-6118.

SECTION B
MAINTENANCE MATERIAL SPECIFICATIONS

1. **Engine Oil: 15W = 40 Multi-viscosity motor oil.**
   (See Operation Manual for special conditions).

2. **Engine Oil Filter: JackRabbit #27010 Deutz #117 4416**

3. **Fuel Filter: JackRabbit #27011 Deutz #117 4696**

4. **Fuel Capacity = 42 US gal**

5. **Hydraulic Oil ISO - 68**
   Capacity 24 US gal with filter change

6. **Hydraulic Oil Filter: JackRabbiat #23548 LHS SPE 50 – 10**

7. **Lubricant (Grease): Lithium Base NGL 1 or NGL 2 (For extreme pressure)**

8. **Air Filters**

Outer – JackRabbit #27013	**Donaldson #P827653**
Inner – Cartridge JackRabbit 27014	**Donaldson #P829332**

9. **Fan Belt: See Deutz "Spare Parts Catalog"**

10. **Starter: See Deutz "Spare Parts Catalog"**

11. **Alternator: See Deutz "Spare Parts Catalog"**

SECTION C
CONTROLS, GAUGES AND VALVES

1. **KEY SWITCH AND IGNITION: Start engine in idle position**

2. **BELTS CONROL: Rocker Switch Push ON – Push OFF. Push ON after engine is started.**

   REMOTE CONTROL (option): The elevator can be equipped with a remote control Transmitter and Receiver that allows the JackRunner driver or other personnel to start, stop, throttle up or down without using the controls on the elevator. The 20/30 Elevator with this option is equipped with a WARNING HORN that will sound prior to the startup of the belts or WoodChuck.

   Keep all personnel clear of belts, WoodChuck fingers and moving parts when elevator engine is running.

3. **THROTTLE SPEED CONTROL – TURTLE = IDLE, RABBIT = FULL SPEED THROTTLE: Rocker Switch Push TURTLE – Pus RABBIT. This switch controls both belts and the WoodChuck option.**

4. **HORIZONTAL BELT SPEED CONTROL: Hydraulic flow control – Turn clockwise to increase Horizontal belt speed. Turn counter clockwise to decrease Horizontal belt speed. This control is normally set and not changed unless there is a significant change in product characteristics. For best performance do not adjust higher than #7 on flow control.**

5. **SELECTOR VALVE: Push handle forward for use of Hydraulic Jack. Pull handle to rear for use of Spout height adjustment control. The valve is located on the side of the engine compartment.**

6. **HYDRAULIC JACK: A toggle switch located on frame near towing hitch will raise or lower jack. Rocker switch #7 will also raise or lower jack with selector valve in forward position.**

7. **SPOUT HEIGHT ADJUSTMENT: Rocker Switch Push TOP to raise, Push BOTTOM to lower. Locking pins are located on incline elevator braces (attached to braces with chain). Selector valve is to be in rearward position.**

8. **WOODCHUCK (Option): Rocker Switch Push – ON PUSH – OFF. WoodChuck will only operate when belt control is engaged.**

9. **KEY – IGNITION LIGHT: The light glows green when the key is in the ON position.**

10. **ALTERNATOR WARNING LIGHT: The light glows red when the battery is discharging.**

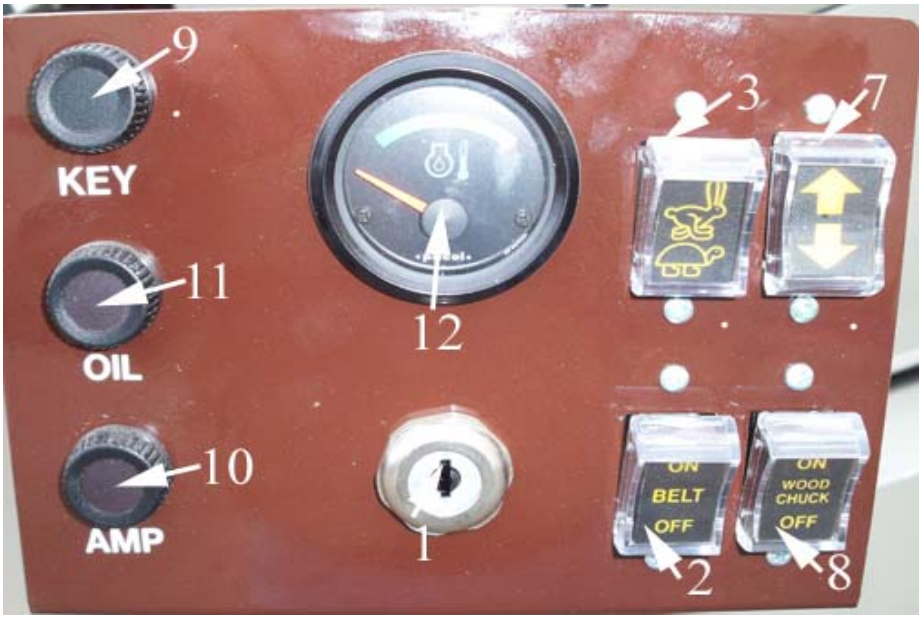
11. **OIL WARNING LIGHT: The light glows red when oil pressure is low. Engine must be turned OFF when this light is ON or serious damage to the engine will occur.**

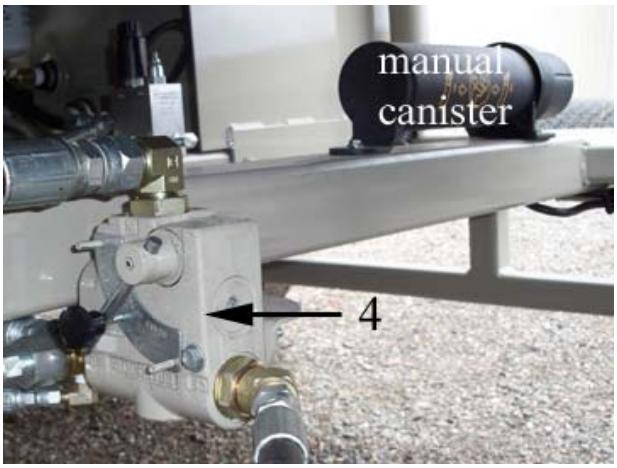
12. **OIL TEMPERATURE GAUGE: Gauge displays safe and unsafe operating ranges. The engine must be turned OFF if needle is in unsafe operating range or serious damage to the engine will occur.**

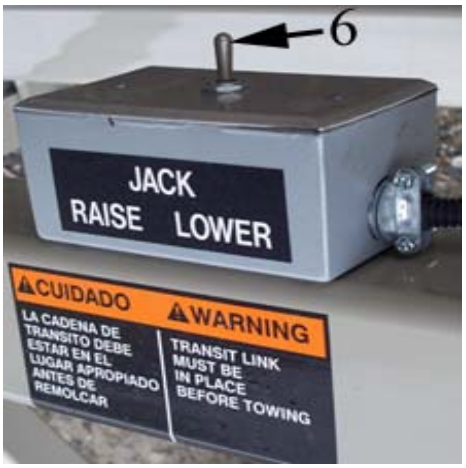
13. **FUEL GAUGE: The gauge is located on top of diesel tank.**

14. **HYDRAULIC OIL LEVEL GAUGE (Bullet Type): Level must be between gauges. Bottom gauge must be full and the top one empty.**

15. **HYDRAULIC RAM SPEED ADJUSTMENT: A needle is installed in the hydraulic circuit near the ram. This needle valve only controls the downward speed of the hydraulic ram.**




manual
canister
4


6
JACK
RAISE LOWER
CUIDADO
LA CADENA DE TRANSITO DEBE ESTAR EN EL LUGAR APROPIADO ANTES DE REMOLCAR
WARNING
TRANSIT LINK MUST BE IN PLACE BEFORE TOWING


hour
meter
JACK
CHUTE
5


14
HYDRAULIC


15

SECTION D
OPERATING PROCEDURES

Prior to operation the following items must be checked and/or adjusted for safe operation, and to avoid unnecessary wear and stoppages.

1. **Check and clean engine air filter See Engine Air Filter Maintenance Instructions Pages 16 – 17.**

2. **Check the engine oil level and add oil if low. See Maintenance Materials Specifications Page 7.**

3. **Check engine fan and alternator belt. Tighten if loose. See Engine Maintenance Manual for proper tension.**

4. **Check engine cooling air intake. Make sure it is clean and unobstructed. Clean with high pressure air if dirty.**

5. **Check batter connections. Clean terminals if they are corroded.**

6. **Check the hydraulic oil level. Add oil if level is below bottom sight gauge (Bullet Type).**

7. **Check fuel level and fill if low.**

8. **Check tension of both conveyor belts on elevator. Also check both WoodChuck conveyor belts if elevator is equipped with the WoodChuck option. All conveyor belts should be tightened if loose. Check tension of WoodChuck conveyor chain. Chain should be reasonable tight (No sags in chain).**

9. **Start engine (warm up 3 – 4 minutes) at idle.**

   If the Elevator is equipped with a REMOE CONTROL system check the WARNING HORN operation. DO NOT use the remote control system if the warning horn does function when the remote control is used to start the belts.

10. **Turn on elevator conveyor belts (WoodChuck Option OFF). Both horizontal and incline conveyor belts must move freely. If they don't move freely STOP engine and free belt or belts that do not move. Turn on WoodChuck. Check belts making sure they move freely.**

11. **After conveyor belts run smoothly at low speed check each belt. Make sure they track evenly on both head shaft and tail shaft pulley. Adjust belts if they do not track evenly or if they are loose. They must carry a full load without slipping. Caution: do not over tighten WoodChuck conveyor belts. See Conveyor Belt Adjustments Instructions Page 18.**

12. **Run belts at fast speed 3 – 4 minutes then recheck tracking. Adjust as necessary. Now you are ready to start operations.**


1
3
2


11

JACKRABBIT

JackRunner approaches the field elevator with a load of pecans.

JackRunner operator drives along side the hopper and starts the elevator from the cab of the JackRunner.

JackRunner operator dumps pecans. The desticker removes the sticks while the pecans go into the trailer.

TOWING

The JJL 490 Elevator is designed to be towed from one location to another by a suitable towing vehicle.

Prior to towing the following procedure should be followed.

1. **Start engine and lower the upper or incline section to it's lowest position. Raise the front of the bin with the hydraulic jack and install and lock the Transit Link.**

2. **Hook-up towing vehicle to elevator and attach safety chain.**

    A. **Use push buttons at front of elevator or rocker switch on control panel to raise hydraulic jack to it's full up position.**

    B. **Turn OFF engine and turn elevator control panel arm toward rear of elevator.**

3. **If the elevator has the Wood Chuck Option:**

    A. **Swing incline stick conveyor to rear.**

    B. **Secure conveyor with pin and pin lock ring or bolt.**

4. **Check tire pressure.**

5. **Attach turn and stop lights if you are towing the elevator on a public road or highway.**

Now you are ready to move to the next location.

SECTION E
MAINTENANCE PROCEDURES AND SCHEDULE

Before doing any service or maintenance work on the engine take the time to review your Engine Operation Manual. It provides additional technical information you will need to correctly service and maintain the elevator engine.

CAUTION: Do not over grease bearings. Over greasing can damage seals and actually cause an increase in internal friction.

The engine requires a one time maintenance between 50 – 150 hours:

1. **Check for engine leaks.**
2. **Change oil and oil filter.**
3. **Change fuel filter cartridge.**
4. **Re-tighten engine mounts.**

ENGINE AIR FILTERS SERVICE INSTRUCTIONS

DAILY MAINTENANCE: SEE DECAL ON FILTER HOUSING:

Donaldson.

General Air Cleaner Service Tips

GENERAL INFORMATION

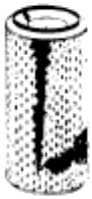
Don't remove filter for inspection.
Such a check will always do more harm than good. Ridges of dirt on the gasket sealing surface can drop on the clean filter side when the gasket is released. Stick with the regular maintenance schedule, or, if you service by restriction, believe the gauge or restriction indicator. Get a new indicator if you don't trust your current one.

Never rap a filter to clean it.
Rapping hard enough to knock off dust damages the filter and destroys your engine protection. Deeply embedded dirt is never released by tapping. It is always safer to keep operating until you can change to a new filter.

Never judge the filter's life by looking at it. Measure the airflow restriction.
A dirty-looking filter may still have plenty of life left, while carbon contamination may not be visible to the eye. You can't see the dirt that's embedded deep within the filter paper. Your best bet for lowest filter maintenance costs and best engine protection is to follow a restriction indicator. It's a smart, low-cost investment.

Never leave an air cleaner open longer than necessary.
Your open air cleaner is a direct entry to the engine! Keep it protected during filter changes. Contaminants smaller than we can see will cause damage to a diesel engine. If the housing is not going to be reassembled immediately, cover the opening. The only way to be sure nothing got in, is to make sure nothing can get in!

Don't ignore a worn or damaged gasket in the housing.
If your air cleaner has a cover gasket, replace it with a new one. Always check to be sure that no piece of the old gasket remains in the housing and that the gasket is not worn. If your filter model calls for a new gasket with each use, never reuse the old one.



Don't use a damaged or bunched filter.
Never install a dented or punctured filter because it cannot protect properly against contamination. A dent can make a firm seal impossible or can indicate damaged media. A filter with bunched pleats saps engine power and fuel dollars.

Replace missing or damaged parts.
Check to ensure that there is no damage to the air cleaner housing that could cause a leak. Replace any missing or damaged Vacuator Valves and air cleaner fasteners. Never attempt to repair a damaged filter.

Never substitute an incorrect filter model number.
Filters may look almost identical, but even a fraction of an inch difference in size can prevent a good seal or affect airflow. Selecting a filter by size may give you the wrong media and therefore affect service life and filter efficiency.

Donaldson

Donaldson recommends

...servicing air filters by monitoring the air flow restriction levels in the intake system.

GENERAL INFORMATION

Some vehicle owners and maintenance supervisors, concerned with lowering their operating costs, will clean and reuse their heavy-duty air filters. Before you decide whether cleaning or washing of air filters is appropriate for your vehicle or fleet, please consider these factors:

- Heavy-duty air filtration manufacturers do not recommend any type of cleaning process be used on their products. Donaldson, like other heavy duty air filter manufacturers, does not warrant the air filter once it has been cleaned.
- Filter dirt holding capacity is reduced 20-40% with each cleaning.
- Rather than cleaning or reusing filters, consider upgrading to an extended service filter and service the filter by restriction.
- There is a risk of dirt reaching the clean side of the filter while cleaning, plus possible filter damage from high pressure water or compressed air, makes cleaning or washing a gamble. Add the cost of cleaning to the danger of filter damage when determining the risk versus the value of filter cleaning process.
- Damaged filters should not be cleaned or reused. If a filter is damaged in service, investigate the source of damage and make corrections to avoid future damage.
- Reusing a cleaned heavy duty filter increases the likelihood of improper air cleaner servicing because of the shortened service life. Each time the air intake system is serviced, it is exposed to the chance of contamination.
- Never attempt to clean a safety filter. Replace it after three primary filter services.

CONVEYOR BELT ADJUSTMENTS INSTRUCTIONS

The tension of the belts should be tight enough to prevent slipping when under maximum load. Belt alignment and tension are maintained by adjusting bolts that slide the pulley shaft bearings in the forward and reverse directions. All adjustments should be made in small increments with the belt run 1 – 2 minutes between adjustments.

1. **Change alignment of the belt: Loosen bearing hold-down bolts. Turn the adjustment bolt to tighten the belt on the side where the belt is too close or rubbing. Re-tighten bearing hold-down bolts.**

    A. **Run belt at low speed for 1 – 2 minutes allowing belt to center on pulley. Re-adjust if necessary.**

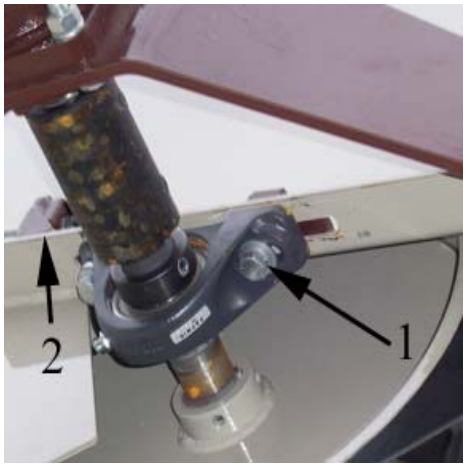
    B. **Run belt at fast speed for 2 – 3 minutes while checking alignment.**

2. **Increase belt tension: Loosen bearing hold-down bolts on idler pulley shaft. Turn adjustment bolts on each side of the belt an equal amount increasing belt tension. Re-tighten bearing hold-down bolts.**

    A. **Run belt at low- speed checking for correct tension and alignment. Re-adjust if necessary.**

    B. **Run belt at fast speed for 2 – 3 minutes while checking tension and alignment.**

3. **Wood Chuck roller chain is tightened in the same manner as the conveyor belts.**



DAILY MAINTENANCE
ENGINE:

1. **Check oil level. Add oil if oil level is at or below add mark.**

2. **Check fan for damage and fan belt for proper tension. See Engine Operation Manual for details.**

3. **Empty dust discharge valve.**

4. **Check air filter. (See Page 16 – 17 for details).**

5. **Check general condition of engine for leaks, loose or damaged parts, worn or damaged belts and any change in engine appearance.**

6. **In adverse dusty conditions remove side panel of engine (two bolts) and blow dust and debris from cooling fins with an air hose nozzle.**

CHASSIS:

7. **Check hydraulic oil level. If hydraulic oil is low add ONLY ISO – 68 hydraulic oil. DO NO add motor oil.**

8. **Check fuel level.**

9. **Check conveyor belt tension. The conveyor belts must be tight enough to carry a full load without slipping.**

10. **Start engine at idle. Idle for 2 – 3 minutes to warm up oil and engine.**

11. **Start conveyor belts at low speed and check tracking. All conveyor belts should track in center of pulleys. Then run conveyor belts at full speed and check tracking.**

12. **Check the general condition of the elevator and WoodChuck option for hydraulic leaks and worn or damaged parts.**

MAINTENANCE AT 125 HOURS

Perform the following after each 125 hours of operation.

1. **Clean battery and cable connectors.**

2. **Service cooling system. See Engine Operation Manual for instructions.**

MAINTENANCE AT 250 HOURS OR 3 MONTHS

1. **Check engine air filter system. See Pages 16 – 17. See Maintenance Materials Specifications Page 7 for replacement engine air filters.**

2. **Inspect air intake system. Tighten or replace parts as necessary to make sure air intake system does not leak.**

3. **Change engine oil and oil filter. See Maintenance Materials Specifications Page 7 for filter and oil specifications. After oil and filter change run engine at idle and check for leaks at filter and drain plug.**

4. **Service battery and cable connectors.**

5. **Service cooling system See Engine Operation Manual for instructions.**

6. **Check and adjust conveyor belts and WoodChuck chain.**

MAINTENANCE AT 500 HOURS OR 6 MONTHS

Perform Daily Maintenance.

Perform 125 Hour Maintenance.

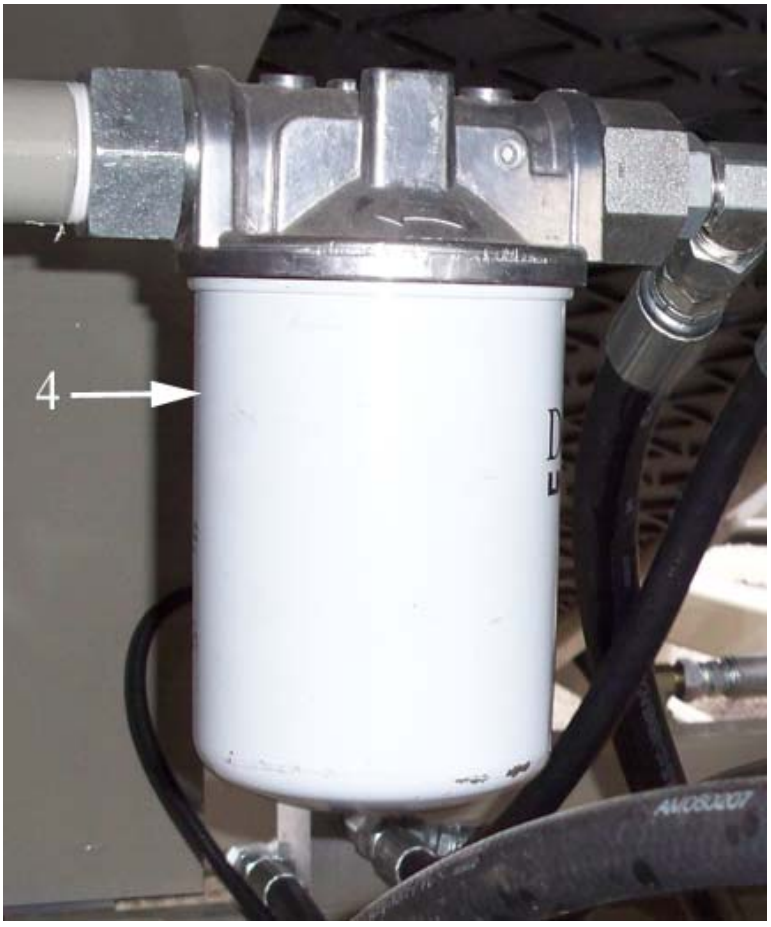
Perform 250 Hour Maintenance.

MAINTENANCE AT 1000 HOURS OR 1 YEAR

1. **Replace toothed belts on engine. See Engine Operation Manual.**
2. **Replace fuel pump strainer. See Engine Operation Manual.**
3. **Perform 500 Hour Maintenance.**
4. **Change hydraulic oil and filter. See Page 7 for specifications.**
5. **Lubricate the bearings on the drive pulleys. There are 8 zerks total without the WoodChuck option. There are 10 zerks on the Wood Chuck option (18 total).**

Continue maintenance at discussed intervals through the life of the JJL 490 Elevator.

Check Engine Operation Manual for other engine maintenance.



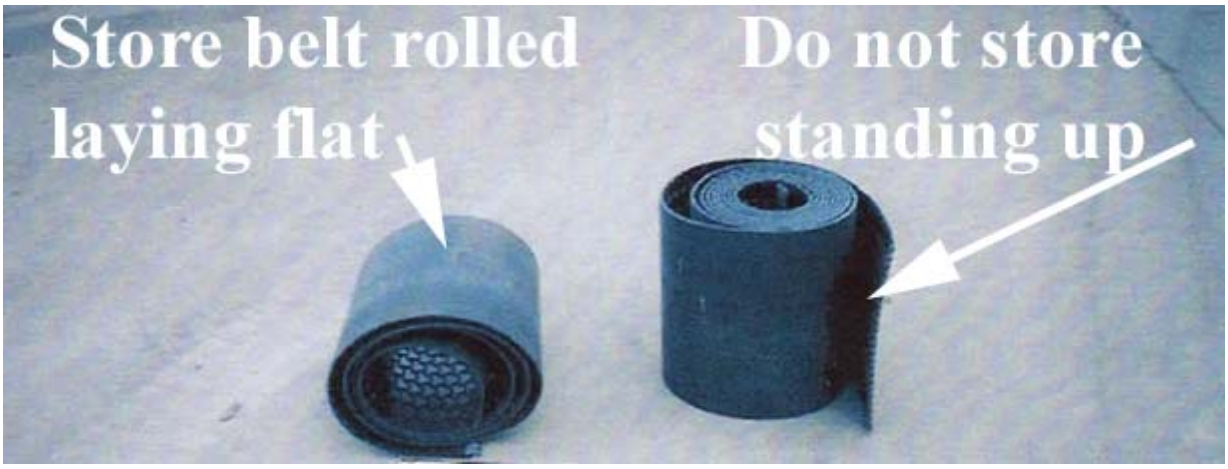
STORAGE OFF SEASON

1. **Wash and clean chassis.**
2. **Clean al air filter and re-install.**
3. **Change engine oil and oil filter.**
4. **Fill diesel tank.**
5. **Check hydraulic oil level (oil level between bottom and top sight gauge).**
6. **Air tires to 65 PSI.**
7. **Release belt tension on all conveyor belts by adjusting the idler pulleys. If stored in unprotected area all conveyor belts should be removed. The belts should be rolled up and stored indoors off the floor to prevent deterioration.**
8. **The battery should be removed and stored indoors off the floor.**

Inspect belts, hoses and general appearance of engine and chassis. Repair or replace items that show wear or damage.

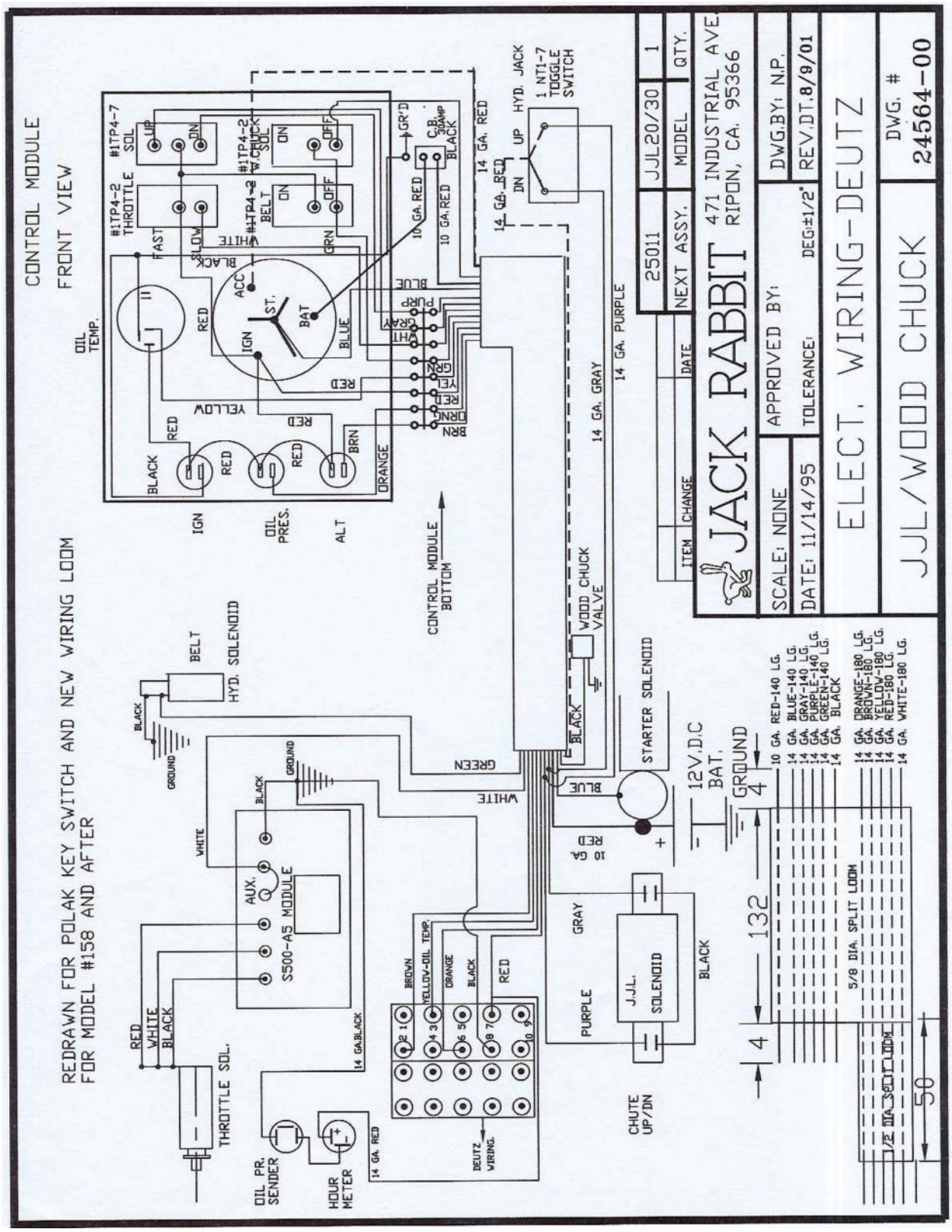
Replace all safety shields, guards and labels that have been damaged.

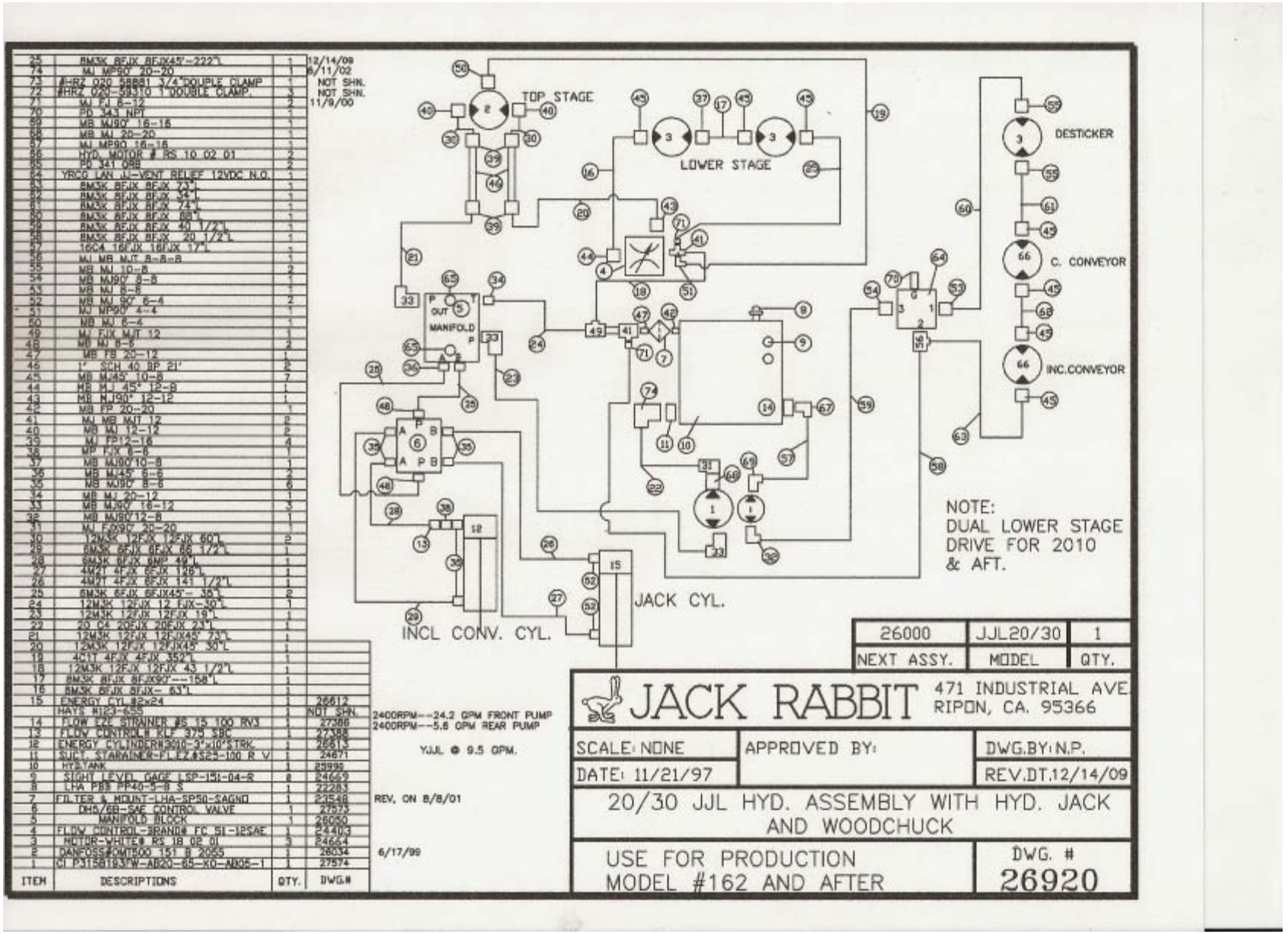
Now you are ready for the next season.



Belts stored standing on end may absorb moisture in the end on the floor and will not track straight when installed in the elevator.

SECTION F
SYSTEMS DIAGRAMS


CONTROL MODULE
FRONT VIEW
REDRAWN FOR POLAK KEY SWITCH AND NEW WIRING LOOM
FOR MODEL #158 AND AFTER
OIL TEMP.
#1TP4-2 THROTTLE
#1TP4-7 SOL
#1TP4-2 W.CHUCK SOL
#1TP4-2 BELT
FAST
SLOW
UP
DN
OFF
GR'D
C.B. 30 AMP
HYD. JACK
1 NT1-7 TOGGLE SWITCH
14 GA. RED
10 GA. RED
ACC
IGN
ST.
BAT
IGN
OIL PRES.
ALT
CONTROL MODULE BOTTOM
WOOD CHUCK VALVE
14 GA. GRAY
14 GA. PURPLE
STARTER SOLENOID
12V.D.C BAT.
GROUND
BELT HYD. SOLENOID
AUX.
S500-A5 MODULE
THROTTLE SDL.
OIL PR. SENDER
HOUR METER
14 GA.BLACK
14 GA. RED
DEUTZ WIRING.
J.J.L. SOLENOID
CHUTE UP/DN
10 GA. RED-140 LG.
14 GA. BLUE-140 LG.
14 GA. GRAY-140 LG.
14 GA. PURPLE-140 LG.
14 GA. GREEN-140 LG.
14 GA. BLACK
14 GA. ORANGE-180 LG.
14 GA. BROWN-180 LG.
14 GA. YELLOW-180 LG.
14 GA. RED-180 LG.
14 GA. WHITE-180 LG.
5/8 DIA. SPLIT LOOM
1/2 DIA. SPLIT LOOM
132
50
4
25011
JJL20/30
1
NEXT ASSY.
MODEL
QTY.
ITEM
CHANGE
DATE
JACK RABBIT
471 INDUSTRIAL AVE
RIPON, CA. 95366
SCALE: NONE
APPROVED BY:
DWG.BY: N.P.
DATE: 11/14/95
TOLERANCE:
DEG±1/2°
REV.DT.8/9/01
ELECT. WIRING-DEUTZ
JJL/WOOD CHUCK
DWG. #
24564-00



ITEM	DESCRIPTIONS	QTY.	DWG.#
25	8M3K 8FJX 8FJX45°-222"L	1	
24	MJ MP90° 20-20	1	
23	#-RZ 020 SR881 3/4"DOUPLE CLAMP	1	
22	#HRZ 020-59310 1"DOUBLE CLAMP	1	
21	MJ FJ 8-12	2	
20	PD 343 NPT	1	
19	MB MJ90° 16-16	1	
18	MB MJ 20-20	1	
17	MJ MP90 16-16	1	
16	HYD. MOTOR # RS 10 02 01	2	
15	PD 341 ORB	1	
14	YBCG 1AN 1L-VENT RELEF 12VDC N.O.	1	
13	8M3K 8FJX 8FJX 73"L	1	
12	8M3K 8FJX 8FJX 74"L	1	
11	8M3K 8FJX 8FJX 74"L	1	
10	8M3K 8FJX 8FJX 88"L	1	
9	8M3K 8FJX 8FJX 40 1/2"L	1	
8	8M3K 8FJX 8FJX 20 1/2"L	1	
7	16C4 16FJX 16FJX 17"L	1	
6	MJ MB MJT 8-8-8	1	
5	MB MJ 10-8	2	
4	MB MJ90° 8-8	1	
3	MB MJ 8-8	1	
2	MB MJ 90° 8-4	2	
1	MJ MP90° 4-4	1	
50	MB MJ 6-4	1	
49	MJ FJX MJT 12	1	
48	MB MJ 8-8	2	
47	MB FB 20-12	1	
46	1" SCH 40 BP 21"	2	
45	MB MJ45° 10-8	7	
44	MB MJ 45° 12-8	1	
43	MB MJ90° 12-12	1	
42	MB FP 20-20	1	
41	MJ MB MJT 12	2	
40	MB MJ 12-12	2	
39	MJ FP12-16	4	
38	MP FJX 4-8	1	
37	MB MJ90°10-8	1	
36	MB MJ45° 6-8	2	
35	MB MJ90° 8-8	6	
34	MB MJ 20-12	1	
33	MB MJ90° 16-12	3	
32	MB MJ90°12-8	1	
31	MJ FJX90° 20-20	1	
30	12M3K 12FJX 12FJX 60"L	2	
29	6M3K 6FJX 6FJX 86 1/2"L	1	
28	6M3K 6FJX 6MP 49"L	1	
27	4M21 4FJX 6FJX 126"L	1	
26	4M21 4FJX 6FJX 141 1/2"L	1	
25	6M3K 6FJX 6FJX45°- 35"L	2	
24	12M3K 12FJX 12 FJX-30"L	1	
23	12M3K 12FJX 12FJX 19"L	1	
22	20 C4 20FJX 20FJX 23"L	1	
21	12M3K 12FJX 12FJX45° 73"L	1	
20	12M3K 12FJX 12FJX45° 30"L	1	
19	4C11 4FJX 4FJX 352"L	1	
18	12M3K 12FJX 12FJX 43 1/2"L	1	
17	8M3K 8FJX 8FJX90°--158"L	1	
16	8M3K 8FJX 8FJX- 63"L	1	
15	ENERGY CYL #2x24	1	26612
	HAYS #123-655	1	NOT SHN.
14	FLOW EZE STRAINER #S 15 100 RV3	1	27386
13	FLOW CONTROL# KLF 375 SBC	1	27388
12	ENERGY CYLINDER#3000-3"x10"STRK.	1	26613
11	SUCT. STRAINER-FLEZ#S25-100 R V	1	24671
10	HYD.TANK	1	25995
9	SIGHT LEVEL GAGE LSP-151-04-S	2	24669
8	LHA PB3 PP40-5-8 S	1	22283
7	FILTER & MOUNT-LHA-SP50-SAGND	1	23548
6	DH5/6B-SAE CONTROL VALVE	1	27673
5	MANIFOLD BLOCK	1	26060
4	FLOW CONTROL-BRAND# FC 5I-12SAE	1	24403
3	MOTOR-WHITE# RS 18 02 01	5	24664
2	DANFOSS#OMTF00 151 B 2055	1	28034
1	CI P3158193TW-AB20-65-K0-AB05-1	1	27574

26000	JJL20/30	1
NEXT ASSY.	MODEL	QTY.

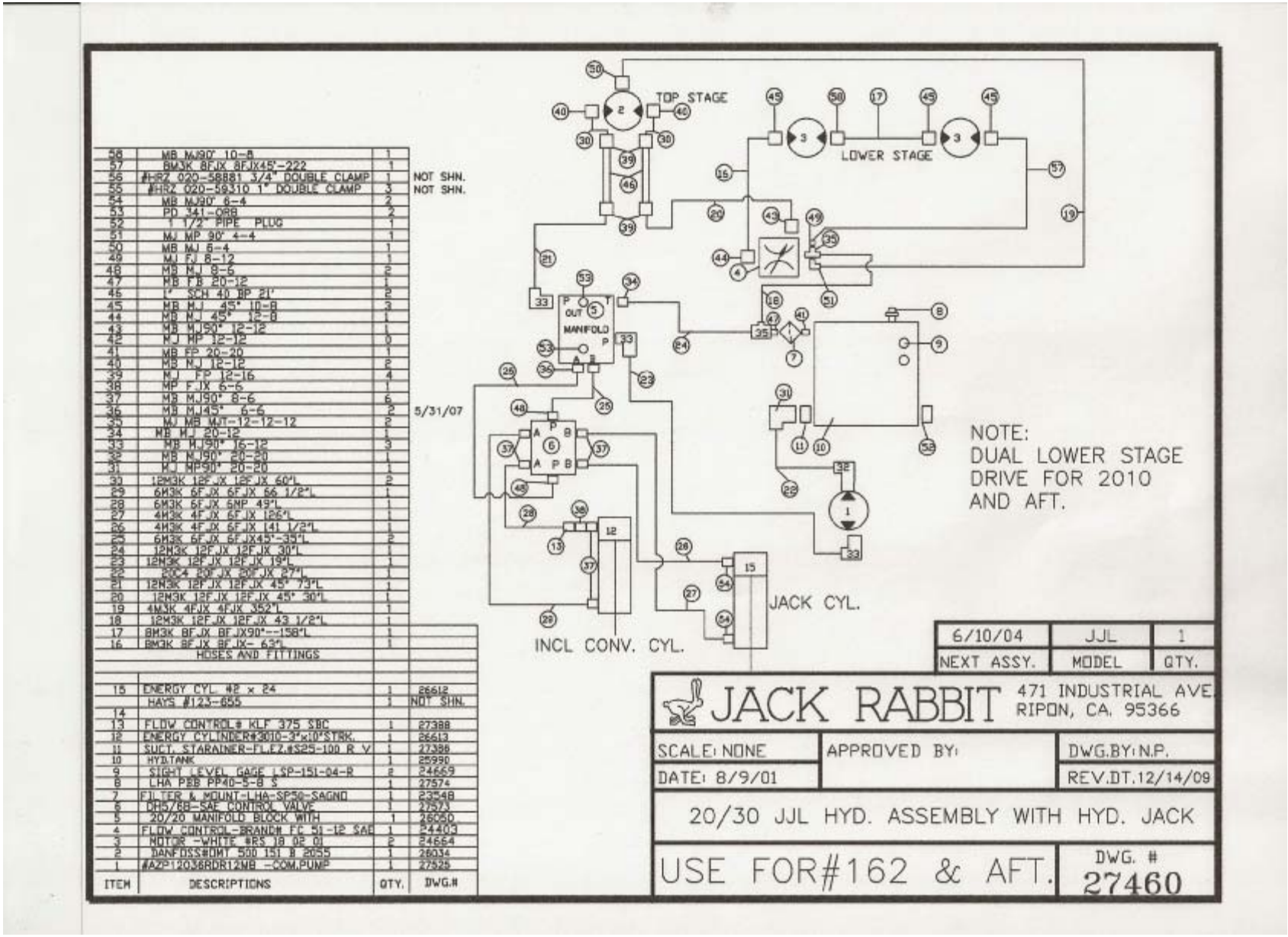
JACK RABBIT 471 INDUSTRIAL AVE RIPON, CA. 95366

SCALE: NONE	APPROVED BY:	DWG.BY: N.P.
DATE: 11/21/97		REV.DT.12/14/09

20/30 JJL HYD. ASSEMBLY WITH HYD. JACK AND WOODCHUCK

USE FOR PRODUCTION
MODEL #162 AND AFTER

DWG. # 26920



ITEM	DESCRIPTIONS	QTY.	DWG.#
58	MB MJ90° 10-8	1	
57	BM3K 8FJX 8FJX45°-222	1	
56	#HRZ 020-58881 3/4" DOUBLE CLAMP	1	NOT SHN.
55	#HRZ 020-59310 1" DOUBLE CLAMP	3	NOT SHN.
54	MB MJ90° 6-4	2	
53	PD 341-ORB	2	
52	1 1/2" PIPE PLUG	1	
51	MJ MP 90° 4-4	1	
50	MB MJ 6-4	1	
49	MJ FJ 8-12	1	
48	MB MJ 8-6	2	
47	MB FB 20-12	1	
46	1" SCH 40 BP 21"	2	
45	MB MJ 45° 10-8	3	
44	MB MJ 45° 12-8	1	
43	MB MJ90° 12-12	1	
42	MJ MP 12-12	0	
41	MB FP 20-20	1	
40	MB MJ 12-12	2	
39	MJ FP 12-16	4	
38	MP FJX 6-6	1	
37	MB MJ90° 8-6	6	
36	MB MJ45° 6-6	2	
35	MJ MB MJT-12-12-12	2	
34	MB MJ 20-12	1	
33	MB MJ90° 16-12	3	
32	MB MJ90° 20-20	1	
31	MJ MP90° 20-20	1	
30	12M3K 12FJX 12FJX 60"L	2	
29	6M3K 6FJX 6FJX 66 1/2"L	1	
28	6M3K 6FJX 6MP 49"L	1	
27	4M3K 4FJX 6FJX 126"L	1	
26	4M3K 4FJX 6FJX 141 1/2"L	1	
25	6M3K 6FJX 6FJX45°-35"L	2	
24	12M3K 12FJX 12FJX 30"L	1	
23	12M3K 12FJX 12FJX 19"L	1	
22	20C4 20FJX 20FJX 27"L	1	
21	12M3K 12FJX 12FJX 45° 73"L	1	
20	12M3K 12FJX 12FJX 45° 30"L	1	
19	4M3K 4FJX 4FJX 352"L	1	
18	12M3K 12FJX 12FJX 43 1/2"L	1	
17	BM3K 8FJX 8FJX90°--158"L	1	
16	BM3K 8FJX 8FJX- 63"L	1	
	HOSES AND FITTINGS		
15	ENERGY CYL 42 x 24	1	26612
	HAYS #123-655	1	NOT SHN.
14			
13	FLOW CONTROL# KLF 375 SBC	1	27388
12	ENERGY CYLINDER#3010-3"x10"STRK.	1	26613
11	SUCT. STARAINER-FLEZ.#S2S-100 R V	1	27386
10	HYD.TANK	1	25990
9	SIGHT LEVEL GAGE LSP-151-04-R	2	24669
8	LHA PEB PP40-5-8 S	1	27574
7	FILTER & MOUNT-LHA-SP50-SAGND	1	23548
6	DH5/8A-SAE CONTROL VALVE	1	27573
5	20/20 MANIFOLD BLOCK WITH	1	26050
4	FLOW CONTROL-BRANCH FC 51-12 SAE	1	24403
3	MOTOR -WHITE #RS 18 02 01	2	24654
2	DANFOSS#OMT 500 151 B 2055	1	26034
1	#AZP12036RDR12MB -COM.PUMP	1	27525

6/10/04	JJL	1
NEXT ASSY.	MODEL	QTY.

JACK RABBIT 471 INDUSTRIAL AVE. RIPON, CA. 95366

SCALE: NONE	APPROVED BY:	DWG.BY: N.P.
DATE: 8/9/01		REV.DT.12/14/09

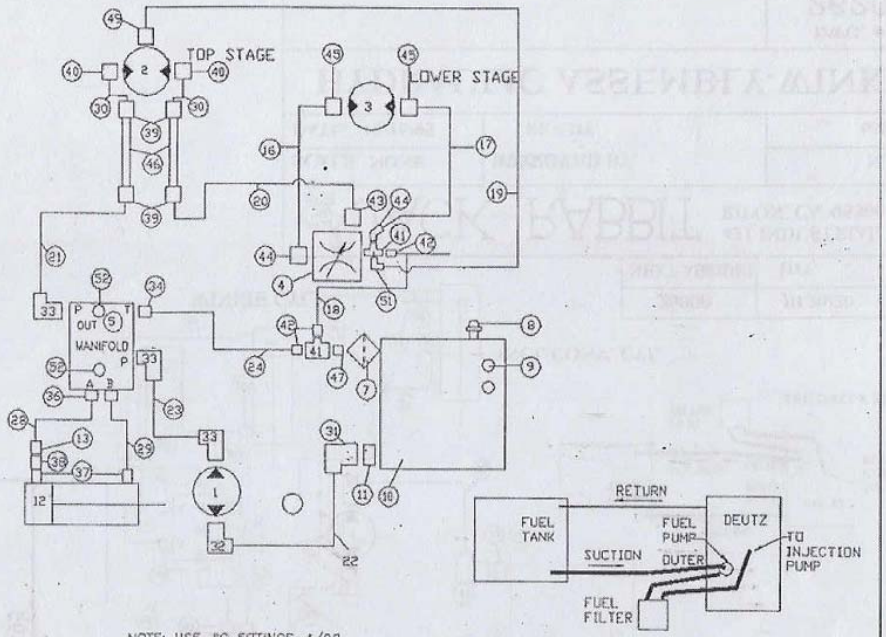
20/30 JJL HYD. ASSEMBLY WITH HYD. JACK

USE FOR#162 & AFT.

DWG. # 27460

SERVICE PARTS 25025-95

Item #	Description	JackRabbit #
11	Suct.Strainer	24671
10	Hydraulic tank	25990
9	Sight Gauge	24669
8	Filt. Breather	22283
7	Filter	23548
5	20/20 Manifold	26050
4	Flow Control	24403
3	Motor	24664
2	Motor	
1	Pump	24663



NOTE: USE JIC FITTINGS-4/98

SEE DWG.# 25128

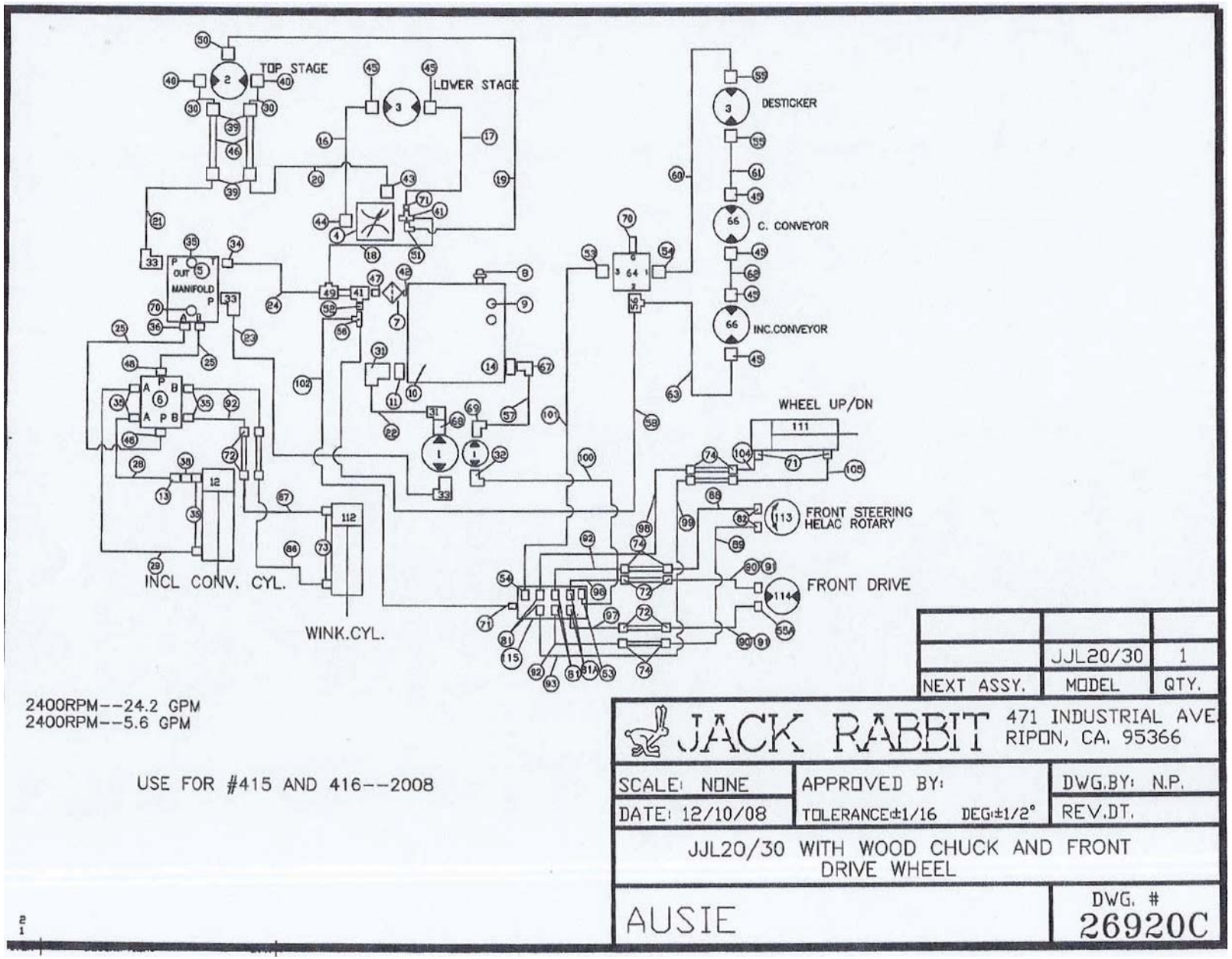
26000	JJL95	1
NEXT ASSY.	MODEL	QTY.

JACK RABBIT 471 INDUSTRIAL AVE. RIPON, CA. 95366

SCALE: NONE	APPROVED BY:	DWG.BY: N.P.
DATE: 6/9/95		REV.DT.5/4/98

20/20 HYDRAULIC ASSEMBLY

DWG. # 25025-95


TOP STAGE
LOWER STAGE
DESTICKER
C. CONVEYOR
INC.CONVEYOR
WHEEL UP/DN
FRONT STEERING
HELAC ROTARY
FRONT DRIVE
INCL CONV. CYL.
WINK.CYL.
MANIFOLD
2400RPM--24.2 GPM
2400RPM--5.6 GPM
USE FOR #415 AND 416--2008
JJL20/30
1
NEXT ASSY.
MODEL
QTY.
JACK RABBIT
471 INDUSTRIAL AVE.
RIPON, CA. 95366
SCALE: NONE
APPROVED BY:
DWG.BY: N.P.
DATE: 12/10/08
TOLERANCE±1/16 DEG±1/2°
REV.DT.
JJL20/30 WITH WOOD CHUCK AND FRONT DRIVE WHEEL
AUSIE
DWG. #
26920C

SECTION G
TROUBLE SHOOTING

The following is a list of problems that may occur, and some possible causes and remedies. If the solution to these problems or any other problem is not readily apparent, contact your JackRabbit dealer or JackRabbit direct. Phone (209) 599-6118 or Fax (209) 599-6119.

Warning: Do not check for fuel or hydraulic leaks with your hands. The high pressure in these lines will penetrate the skin and cause serious personal injury.

Problem-symptom	Cause	Action
Engine won't start	Dead Battery	Jump start engine. Connect jumper cable to 12 volt auxiliary battery first. Then connect Positive cable to positive terminal on elevator battery. Then connect negative cable to frame of elevator. Connection to frame should not be near elevator battery.
Engine Stops	Out of fuel	Fill tank with diesel and bleed air from system.
Other engine problems		See Deutz Operation Manual Trouble Shooting DiagnosticChart.
Belts tracking to one side pulley	Belt out of alignment	See Conveyor Belt Adjustment Instruction Page 18.
WoodChuck Chain stops	Stick under chain	Turn engine OFF. Turn chain backwards with bar. Remove stick and tighten WoodChuck chain.