PRO-TILL®
HIGH PERFORMANCE TILLAGE

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PRO-TILL 33/40
Serial Numbers from 1040 to 1727

143347 v1.5
Quick-Start Guide* for Pro-Till 33/40

* Refer to operators manual for complete safety and operation info.

A Connect Hydraulics

1. Wheels
2. Rollers
3. Transport
4. Wings
5. Jack

Maintenance (Check Machine Daily)

Grease Points
- Front Frame / Rockshaft Pins
- Wing Frame Pins
- Cylinder Pins
- Wing Transport Roller Pins
- Hubs & Spindles
- Working points & pins

* Refer to operators manual for complete safety and operation info.
**B** Put in Field Position

i)

ii)

iii)

iv)

v)

---

**C** Set Cutting Depth

(Start with 12 stops per cylinder, test depth & adjust)

(IMPORTANT: Add depth stops starting from rod end)

+1

+1/2"

---

**D** Test. Check. Adjust.

10-12 MPH

100m

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**E** Lower Wheels for Headland Turns.

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**F** **MAX** Transport Speed: 40 km/h (25 MPH)
UNLOADING GUIDELINES - Lowboy Trailer

1. Position trailer on level ground with lots of room on the unloading side for unloading and driving unit of trailer.

2. Use appropriate forklifts to unload front “A” frame hitch, hardware container, and unloading ramps from trailer.

3. Position the four unloading ramps on unloading side of trailer at each tire location.

4. Position tractor near but to the side of the raised hitch frame on the main assembly. Connect the hoses for the two main transport cylinders (#4) and lower the hitch frame.

5. Position and support the front “A” frame hitch in front of the lower frame section. Use the 1” x 4-1/2” GR8 bolts and hardware from the shipping container to re-attach the frame sections.
Torque as required: 770 lb.ft (1050 N.m)

6. Re-route, secure and connect all hydraulic hoses and wiring onto the main frame.

7. Hook up to an appropriately sized tractor and properly secure with clevis hitch and safety chain.

⚠️ DANGER:
NEGATIVE TONGUE WEIGHT/ TIP OVER HAZARD

• Make certain that machine is securely hitched to the tractor at all times. An unhitched machine can tip over backwards during folding and unfolding if the tongue is not properly secured.

8. Ensure the four loading ramps are properly positioned in front of the four tires.

9. Connect hydraulics to tractor. Slightly retract the transport hydraulic cylinders, just enough to raise disc sections and rollers to clear trailer deck while unloading. Do not fully lift rear sections.

10. Clear the area of any people and equipment. Slowly and safely drive unit forward off trailer.

11. Rotate and re-secure the light brackets into the correct position.

12. If Pro-Till is equipped with Rubber Rollers, the "Scraper Assemblies" may be shipped unattached and will need to be installed onto the rear roller frames.
The weight of the Pro-Till is over 30,000 lbs. Any lifting of the Pro-Till main assembly during loading or unloading must be accomplished using an overhead crane capable of safely lifting the unit at the designated secure lift locations.

1. To lift the Pro-Till main assembly, the unit must be secured at several designated lift locations. The following images will show the appropriate areas for lifting.

2. Ensure assembly is level while being lifted. Wing sections must be lifted level with center section to avoid any damage to wing cylinders.

Step 4 to 12: Refer to same steps/images on previous page (Steps 3, 7, 8, 9, & 10 do not apply to this method).

4. After lowering to ground, position a tractor near, but to the side of, the raised hitch frame on the main assembly. Connect the hoses for the two main transport cylinders (#4) and lower the hitch frame.

5. Position and support the front “A” frame hitch in front of the lower frame section. Use the 1” x 4-1/2” GR8 bolts and hardware from the shipping container to re-attach the frame sections. Torque as required: 770 lb-ft (1050 N.m)

6. Re-route, secure and connect all hydraulic hoses and wiring onto the main frame.

11. Rotate and re-secure the light brackets into the correct position.

12. If Pro-Till is equipped with Rubber Rollers, the "Scraper Assemblies" may be shipped unattached and will need to be installed onto the rear roller frames.
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IMPORTANT SAFETY REMINDER

DANGER - NEVER PARK, UN-HOOK, or SERVICE Pro-Till with REAR WINGS RAISED

DANGER
If the front hitch becomes disconnected in this position the front hitch will raise suddenly and the back of the machine will drop!

Changing Discs and Servicing
The best position to safely change or service the discs on the Pro-Till is when it is secured in the winged forward transport position.
CONGRATULATIONS on your choice of a Degelman PRO-TILL to complement your farming operation. It has been designed and manufactured to meet the needs of a discerning agricultural market. Degelman PRO-TILL shreds heavy fall residue, opens up spring fields, levels ruts, destroys clods and produces an absolutely perfect seed bed. Degelman PRO-TILL is the fastest and most versatile piece of tillage equipment you will ever own. Use this manual as your first source of information about this machine.

TO THE NEW OPERATOR OR OWNER - Safe, efficient and trouble free operation of your Degelman PRO-TILL requires that you and anyone else who will be operating or maintaining it, read and understand the Safety, Operation, Maintenance and Troubleshooting information contained within this manual.

By following the operating instructions in conjunction with a good maintenance program your machine will provide many years of trouble-free service. Keep this manual handy for frequent reference and to pass on to new operators or owners. Call your Degelman Dealer if you need assistance, information, or additional copies of the manual.

OPERATOR ORIENTATION - The directions left, right, front and rear, as mentioned throughout the manual, are as seen from the tractor drivers’ seat and facing in the direction of travel.
Safety

Why is SAFETY important to YOU?

3 BIG Reasons:

• Accidents Can Disable and Kill
• Accidents Are Costly
• Accidents Can Be Avoided

SAFETY ALERT SYMBOL

The Safety Alert Symbol identifies important safety messages applied to the PRO-TILL and in this manual. When you see this symbol, be alert to the possibility of injury or death. Follow the instructions provided on the safety messages.

The Safety Alert Symbol means:

ATTENTION!

BECOME ALERT!

YOUR SAFETY IS INVOLVED!

SIGNAL WORDS

Note the use of the Signal Words: DANGER, WARNING, and CAUTION with the safety messages. The appropriate Signal Word has been selected using the following guidelines:

DANGER: Indicates an imminently hazardous situation that, if not avoided, WILL result in death or serious injury if proper precautions are not taken.

WARNING: Indicates a potentially hazardous situation that, if not avoided, COULD result in death or serious injury if proper precautions are not taken.

CAUTION: Indicates a potentially hazardous situation that, if not avoided, MAY result in minor or moderate injury if proper practices are not taken, or, serves as a reminder to follow appropriate safety practices.
SAFETY

YOU are responsible for the safe operation and maintenance of your Degelman PRO-TILL. YOU must ensure that you and anyone else who is going to operate, maintain or work around the PRO-TILL 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 this equipment.

Remember, YOU are the key to safety. Good safety practices not only protect you but also the people around you. Make these practices a working part of your safety program. Be certain that EVERYONE operating this equipment is familiar with the recommended operating and maintenance procedures and follows all the safety precautions. Most accidents can be prevented. Do not risk injury or death by ignoring good safety practices.

• PRO-TILL owners must give operating instructions to operators or employees before allowing them to operate the PRO-TILL, and at least annually thereafter per OSHA regulation 1928.51.

• 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.

• 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 may impair the function and/or safety and could affect the life of the equipment.

• Think SAFETY! Work SAFELY!

GENERAL SAFETY

1. Read and understand the Operator’s Manual and all safety signs before operating, maintaining or adjusting.

2. Install and properly secure all shields and guards before operating. Use hitch pin with a mechanical locking device.

3. Have a first-aid kit available for use should the need arise and know how to use it.

4. Have a fire extinguisher available for use should the need arise and know how to use it.

5. Wear appropriate protective gear.
   This list includes but is not limited to:
   • A hard hat
   • Protective shoes with slip resistant soles
   • Protective glasses or goggles
   • Heavy gloves
   • Wet weather gear
   • Hearing protection
   • Respirator or filter mask

6. Clear the area of people, especially small children, and remove foreign objects from the machine before starting and operating.

7. Do not allow riders.

8. Stop tractor engine, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.

9. Review safety related items with all operators annually.
Hook-Up

HOOK-UP / UNHOOKING

The PRO-TILL should always be parked on a level, dry area that is free of debris and foreign objects. Follow this procedure to hook-up:

1. Clear the area of bystanders and remove foreign objects from the machine and working area.
2. Make sure there is enough room to back the tractor up to the trailer hitch.
3. Start the tractor and slowly back it up to the hitch point.
4. Connect the hydraulics. To connect, proceed as follows:
   • Use a clean cloth or paper towel to clean the couplers on the ends of the hoses. Also clean the area around the couplers on the tractor. Remove the plastic plugs from the couplers and insert the male ends.
   • Be sure to match the pressure and return line to one valve bank.
   • Hoses have be labelled in a suggested order of priority from most used to least: (1) Wheels (2) Rollers (3) Transport (4) Wings (5) Jack
5. Use the hydraulic jack controls to raise or lower the hitch to align with the drawbar.
   ▲ IMPORTANT: Close the ball valve (if equipped) to prevent accidental operation of this circuit. Ensure ball valve handle remains in closed position.

▲ WARNING: Tractor MUST be equipped with a clevis hitch to prevent unit from tipping upward while folding into and out of transport. A safety chain must also always be properly installed.

6. Slowly back tractor up to align the hitch.
7. Install a drawbar pin with provisions for a mechanical retainer such as a KLIK pin. Install the retainer.
8. Install a safety chain between the tractor and the hitch.
9. Connect lights (electrical socket plug) to tractor.
10. Raise the hydraulic hitch jack.
11. When unhooking from the tractor, reverse the above procedure.

▲ WARNING/DANGER: Never disconnect Pro-Till from tractor if rear sections of machine are partially raised. Negative Hitch Weight may result, the hitch pole may suddenly raise, and the rear section would come crashing down. Only disconnect when unit is on level ground in the proper transport or field position.

▲ WARNING / DANGER: Tractor MUST be properly equipped with a clevis hitch and safety chain to prevent Negative Hitch Weight occurring when raising or lowering the rear sections. If the unit is not properly attached to the tractor with a clevis hitch and safety chain, the negative hitch weight could result in the hitch pole suddenly raising and the rear section to come crashing down.

▲ WARNING: Never disconnect implement from tractor at all times.
▲ WARNING: Do not unhook implement from tractor unless it is in the proper field or transport position.

▲ WARNING: Stay clear of this area.

▲ WARNING: Keep safety chain properly attached to a secure location on the tractor at all times.
▲ WARNING: Ensure hitch pin is secured with a proper pin retainer.
TRANSPORT SAFETY

1. Read and understand ALL the information in the Operator’s Manual regarding procedures and SAFETY when operating the PRO-TILL in the field/yard or on the road.

2. Check with local authorities regarding machine transport on public roads. Obey all applicable laws and regulations.

3. Always travel at a safe speed. Use caution when making corners or meeting traffic.

4. Make sure the SMV (Slow Moving Vehicle) sign, and all the lights and reflectors that are required by the local highway and transport authorities are in place, are clean and can be seen clearly by all overtaking and oncoming traffic. Be sure to check with local highway authorities and comply with their lighting and transport requirements.

5. Keep to the right and yield the right-of-way to allow faster traffic to pass. Drive on the road shoulder, if permitted by law.

6. Always use hazard warning flashers on tractor when transporting unless prohibited by law.

7. Always use a pin with provisions for a mechanical retainer and a safety chain when attaching to a tractor or towing vehicle.

TRANSPORTING

Use the following guidelines while transporting the PRO-TILL:

1. Use a safety chain and a pin with provisions for a mechanical retainer.

2. Ensure Pro-Till is in the full transport position with the wing rollers secure and properly in place.

3. Ensure debris that may fall or become dislodged during transport is removed.

4. Be sure hazard lights are flashing and SMV decal is visible.

5. MAXIMUM RECOMMENDED TRANSPORT SPEED: MAX 40 km/h or 25 mph. (Road Conditions, Field speeds may be lower.)

   Due to weight of the machine and tire ratings, do not exceed the recommended maximum speeds or severe tire damage / excessive wear may occur.

   6. If the Pro-Till is to be towed in Transport for an extended duration with speeds up to 40km/hr, the centre frame wheels (transport tires) must be checked and properly inflated: 94 PSI (648 kPa).

   IMPORTANT: Under NO CIRCUMSTANCES should there ever be riders while the Pro-Till is in transport.
Transport to Field Position Overview

TRANSPORT TO FIELD POSITION

FOLLOW PROCEDURE BELOW:

A. On level ground, position the PRO-TILL so it is straight in-line behind the tractor.

B. Slightly extend the Transport Cylinders (#3) just enough to remove the weight of wings off from the wing transport carriers. Do not lift more than needed.

⚠️ IMPORTANT: Do Not fully extend the transport cylinders at this point. Follow proper procedures to prevent possible equipment damage or failure.

C. Extend the Wing Cylinders (#4) to fully open the wings behind the machine.

⚠️ NEVER LIFT WINGS! Unfold using the Wing Cylinders (4), then lower all rear sections using the Transport Cylinders (3).

D. After fully opening the wings, extend the Transport Cylinders (#3) to completely lower all the PRO-TILL rear frame sections to the ground.

E. Place both the Transport Cylinders (#3) and the Wing Cylinders (#4) into the FLOAT position before operation.

⚠️ IMPORTANT: The Transport & Wing Cylinders MUST both be in the "FLOAT" position in order for the PRO-TILL to properly contour the ground and to avoid possible cylinder or equipment damage.
A. Fully extend the Wheel & Roller Cylinders (#1 & #2) to completely raise the disc frames.

**NOTE:** It is important to fully raise the disc frames up as high as possible as it puts the rollers and wheels in the correct position for low transport.

B. Retract the Transport Cylinders (#3), fully raising the complete rear section (center & both wing sections).

**IMPORTANT:** Do Not retract the wing cylinders to raise the wings at this point. Follow proper procedures to prevent possible equipment damage or failure.

C. After raising all the rear sections together, retract the Wing Cylinders (#4) to bring both wings inward towards the frame.

D. When the wings get close to the wing transport carriers, you may need to slightly extend the Transport Cylinders (#3) so the rollers can reach the correct position.

E. With the wings in the proper position, retract the Transport Cylinders (#3) fully lowering the wings onto the wing transport carriers.
OPERATING SAFETY

1. Read and understand the Operator’s Manual and all safety signs before using.
2. Stop tractor engine, set park brake, remove ignition key and wait for all moving parts to stop before servicing, adjusting, repairing or unplugging.
3. Keep hands, feet, hair and clothing away from all moving and/or rotating parts.
4. Do not allow riders on the PRO-TILL tractor during operation or transporting.
5. Keep all shields and guards in place when operating (if applicable).
6. Clear the area of all bystanders, especially children, before starting.
7. Do not operate machine on overly steep side hills or slopes.
8. Be careful when working around or maintaining a high-pressure hydraulic system. Ensure all components are tight and in good repair before starting.

PRE-OPERATION CHECKLIST

It is important for both personal safety and maintaining good operational condition of the machine that the pre-operational checklist be followed.

Before operating the machine and each time thereafter, the following areas should be checked off:

1. Lubricate the machine per the schedule outlined in the “Maintenance Section”.
2. Use only a tractor with adequate power to pull the PRO-TILL under ordinary operating conditions.
   NOTE: It is important to pin the drawbar in the central location only.
3. Ensure that the machine is properly attached to the tractor using a clevis hitch, safety chain and a drawbar pin with provisions for a mechanical retainer. Make sure that a retainer such as a Klik pin is installed.
4. Before using, inflate tires to:
   Outer Wing Tires (FL630 PLUS): 600/50 R22.5: 58 PSI (400 kPa)
   Center/Transport Tires (382 FLOTRUCK): 600/50 R22.5: 94 PSI (648 kPa)
5. Check oil level in the tractor hydraulic reservoir. Top up as required.
6. Inspect all hydraulic lines, hoses, fittings and couplers for tightness. Use a clean cloth to wipe any accumulated dirt from the couplers before connecting to the tractor’s hydraulic system.
7. Inspect the condition/wear of the discs. If needed or desired, adjust the Disc Cutting Depth as outlined in the adjustments section. If excessive disc wear is evident, replacement may be required. Refer to maintenance section.

BREAK-IN

Although there are no operational restrictions on the PRO-TILL when it is new, there are some checks that should be done when using the machine for the first time, follow this procedure:

IMPORTANT: It is important to follow the Break-In procedures especially those listed in the “Before using” section below to avoid damage:

A. Before using:
   2. Complete steps in “Pre-Operation Checklist”.
   3. Lubricate all grease points.
   4. Check all bolt tightness.
   5. Adjust Disc Cutting Depth as outlined in the “Setting Disc Depth” section.

B. After operating for 2 hours:
   1. Check all hardware. Tighten as required.
   2. Check all hydraulic system connections. Tighten if any are leaking.
OPERATING GUIDELINES

1. Place both the Transport Cylinders (#4) and the Wing Cylinders (#3) into the FLOAT position before operation.

   **IMPORTANT:** The Transport Cylinders and Wing Cylinders MUST both be in the FLOAT position for the PRO-TILL to contour properly and to avoid possible cylinder or equipment damage.

2. **Maximum** operating speed is recommended at approximately 12 to 14 mph.
   *Minimum* operating speed is recommended at approximately 7 mph.

3. When making headland turns, the operator may wish to slightly raise the disc sections by activating the Wheel (#1) or Roller (#2) cylinders (or both). Remember to lower after coming out of the turn.

4. Each time you start a new field you may need to adjust the cutting depth depending on the type of crop residue or soil conditions. The operator can adjust the cutting depth by raising/lowering the front or rear sets of discs by following the guidelines in the “Setting Disc Depth” section.

5. After making adjustments to the cutting depth it is recommended to bring the Pro-Till up to speed (10-12 mph) to test the depth setting by driving about 100m (cutting performance changes dramatically from a slow speed to high speed). Stop, check depth and cut of field, re-adjust the height higher or lower, if needed, based on your preference. Remember: Removing a 1/4” stop lowers cutting depth 1/2” deeper; Adding a 1/4” stop raises discs up 1/2” higher.

6. Harder, packed soil may require additional passes for optimum results. It is recommended to do a second pass at an angle to the original pass.
DEPTH SETTING OVERVIEW

Adjusting the cutting depth of the front and rear discs is accomplished by adding or removing a number of spacers from specified cylinders.

The spacers limit the stroke distance of the cylinders, changing the amount that the front and rear of the disc frames are lowered.

Each spacer that is added to the cylinders raises the frame height by 1/2". Therefore, to lower discs deeper into the soil, you would remove one spacer for each 1/2" of depth change required.

A typical recommended penetration depth of 2" is suggested for both front and rear discs. This depth, however, can be adjusted to the operators needs and preferences or based on different crop varieties and soil conditions.

Some operators may also prefer to adjust the front or rear frame disc sections to run slightly higher than the other. Adjustments to the front or rear disc sections are done individually:

- Adjust the front disc height by adding/removing spacers to the two center section wheel cylinders.
- Adjust the rear disc height by adding/removing spacers to the two rear wing roller cylinders.

**NOTE:** As the discs wear with usage, the disc depth settings will also need to be adjusted accordingly.

Use the following as a guideline for setting depth:

1. Drive the PRO-TILL onto level ground. For initial setup, try "12 Spacers" on each cylinder stop.
2. Fully retract the Wheel (#1) and Roller (#2) cylinders to lower rear frame to ground.
3. Check the penetration depth of the front and rear row of discs. Take note of how much you would like to raise or lower both the front and rear disc sections - round to the nearest 1/2".
4. Fully raise the frame back off the ground by extending the Wheel (#1) and Roller (#2) cylinders.
5. Adjust Front Disc height from the two center wheel cylinder positions.
- **Lower Front Discs** - Remove one spacer for each 1/2" you want to **Lower** it.
- **Raise Front Discs** - Add one spacer for each 1/2" you want to **Raise** it.
6. Adjust Rear Disc height from the two wing roller cylinders positions.
- **Lower Rear Discs** - Remove one spacer for each 1/2" you want to **Lower** it.
- **Raise Rear Discs** - Add one spacer for each 1/2" you want to **Raise** it.
7. Repeat above procedure until proper depth is achieved.
SCREPER POSITION OVERVIEW

- **Storage Position**: Remove the 4 bolts to rotate into or out of "Storage position", then re-install.
- **Maintenance Position**: Retighten main bolts or insert a bolt/pin here to hold in raised position.
- **Engaged Position**: Gap Distance 1/4"-3/8"

SETTING SCRAPER POSITION

**Change into Storage Position**:
- Loosen & remove the 4 bolts (2 per arm).
- Rotate section upward to new position.
- Reinstall bolts and tighten in place.
- Reverse procedure to put into working position.

**Change into Maintenance Position** (from engaged):
- Loosen the 4 bolts (2 per arm).
- Rotate section upward until top hole is open.
- Tighten bolts to secure and/or insert bolt or pin (user supplied) into top hole to secure in position.

**Change into Engaged Position** (from maintenance):
- Loosen the 4 bolts (2 per arm).
- Rotate section down until scraper blades are set to proper distance from inner roller groove. (1/4" to 3/8" is the recommended distance)
- Tighten bolts to secure in position.

REVERSING SCRAPER BLADES

**Double Sided Blades**

Note: Complete section must be changed at the same time when blades are being reversed or adjustment will not work properly.

**Replacement Scraper Blade Kits**
- c/w hardware (Locknuts & bolts)

**Scraper Blade Kits**
- 33' (10m) Kit - 572675
  - Blades in Kit 23, 31, 23 - Total = 77
- 40' (12m) Kit - 572750
  - Blades in Kit 31, 31, 31 - Total = 93
Keep safety decals and signs clean and legible at all times. Replace safety decals and signs that are missing or have become illegible. Safety decals or signs are available from your Dealer Parts Department.

142556 - Decal, Reflector Red - 2 x 9 (2)
142557 - Decal, Reflector Amber - 2 x 9 (2)
142963 - Decal, Danger-Neg Tongue Weight (2)
142964 - Decal, Warning-Machine Runaway (2)
142965 - Decal, Danger-Crushing Hazard (2)
142966 - Decal, Warning-Pinch Point (2)
142968 - Decal, Warning-Float Cylinders-lg (1)
142969 - Decal, Warning-Float Cylinders-sm (4)
143162 - Decal, Important-Read Manual (1)
142975 - Decal, Hydraulic Hose Label (1)
142976 - Decal, Front Disc Depth - Loc 2 (1)
142977 - Decal, Front Disc Depth - Loc 3 (1)
142978 - Decal, Rear Disc Depth - Loc 1 (1)
142979 - Decal, Rear Disc Depth - Loc 4 (1)
142008 - Decal, Degelman - 6” (3)
143198 - Decal, Degelman - 8-1/4” (1)
142961 - Decal, Pro-Till 33 - 4” (2)
142962 - Decal, Pro-Till 33 - 7” (2)
142949 - Decal, Pro-Till 40 - 4” (4)
142950 - Decal, Pro-Till 40 - 7” (2)
The PRO-TILL should be carefully prepared for storage to ensure that all dirt, mud, debris and moisture has been removed. Follow this procedure when preparing to store:

1. Wash the entire machine thoroughly using a water hose or pressure washer to remove all dirt, mud, debris or residue.
2. Inspect all parts to see if anything has become entangled in them. Remove the entangled material.
3. Lubricate all grease fittings to remove moisture (except spherical bearings)
4. Inspect all hydraulic hoses, fittings, lines and couplers. Tighten any loose fittings. Replace any hose that is badly cut, nicked or abraded or is separating from the crimped end of the fitting.
5. Touch up all paint nicks and scratches to prevent rusting.
6. Select an area that is dry, level and free of debris.
7. Store in either Transport or Field position.
8. Use hydraulic cylinder jack.
9. Oil the exposed chrome shaft on the hydraulic cylinders to prevent rusting.

STORAGE
Service & Maintenance

TORQUE SPECIFICATIONS

CHECKING BOLT TORQUE

The tables shown below give correct torque values for various bolts and capscrews. Tighten all bolts to the torques specified in chart unless otherwise noted. Check tightness of bolts periodically, using bolt torque chart as a guide. Replace hardware with the same strength (Grade/Class) bolt.

**IMPERIAL TORQUE SPECIFICATIONS**

(based on “Zinc Plated” values)

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<th>Grade 8</th>
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<td>10 (14)</td>
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</tbody>
</table>

**METRIC TORQUE SPECIFICATIONS**

(based on “Zinc Plated” values)

<table>
<thead>
<tr>
<th>Size</th>
<th>Class 8.8</th>
<th>Class 10.9</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>lb.ft (N.m)</td>
<td>lb.ft (N.m)</td>
</tr>
<tr>
<td>M6</td>
<td>7 (10)</td>
<td>10 (14)</td>
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<tr>
<td>M8</td>
<td>16 (22)</td>
<td>23 (31)</td>
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<tr>
<td>M10</td>
<td>30 (42)</td>
<td>45 (60)</td>
</tr>
<tr>
<td>M12</td>
<td>55 (75)</td>
<td>80 (108)</td>
</tr>
<tr>
<td>M14</td>
<td>90 (120)</td>
<td>125 (170)</td>
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<tr>
<td>M16</td>
<td>135 (185)</td>
<td>195 (265)</td>
</tr>
<tr>
<td>M18</td>
<td>190 (255)</td>
<td>270 (365)</td>
</tr>
<tr>
<td>M20</td>
<td>265 (360)</td>
<td>380 (515)</td>
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<td>M22</td>
<td>365 (495)</td>
<td>520 (705)</td>
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<td>M24</td>
<td>460 (625)</td>
<td>660 (895)</td>
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<td>M27</td>
<td>675 (915)</td>
<td>970 (1315)</td>
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<td>M30</td>
<td>915 (1240)</td>
<td>1310 (1780)</td>
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<td>M33</td>
<td>1250 (1695)</td>
<td>1785 (2420)</td>
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<td>M36</td>
<td>1600 (2175)</td>
<td>2290 (3110)</td>
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**WHEEL NUT & WHEEL BOLT TORQUE**

Wheel Nut/Bolt Torque

<table>
<thead>
<tr>
<th>Size</th>
<th>lb.ft (N.m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4</td>
<td>280-300 (380-405)</td>
</tr>
</tbody>
</table>

Wheel Tightening Procedure

1. Install and hand tighten nuts/bolts.
2. Tighten to approx 20% Torque value using the 10 Bolt Star or CrissCross pattern shown above.
3. Tighten to Full Torque value using the Star or CrissCross pattern.
4. If applicable, install Rear Locknuts using Wheel Torque Values.

**HYDRAULIC FITTING TORQUE**

<table>
<thead>
<tr>
<th>Size</th>
<th>lb.ft (N.m)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2</td>
<td>34 (46)</td>
</tr>
<tr>
<td>3/4</td>
<td>75 (100)</td>
</tr>
<tr>
<td>7/8</td>
<td>90 (122)</td>
</tr>
</tbody>
</table>

* The torque values shown are based on lubricated connections as in reassembly.

Tightening Flare Type Tube Fittings

1. Check flare and flare seat for defects that might cause leakage.
2. Align tube with fitting before tightening.
3. Lubricate connection and hand tighten swivel nut until snug.
4. To prevent twisting the tube(s), use two wrenches. Place one wrench on the connector body and with the second tighten the swivel nut to the torque shown.
WHEEL HUB REPAIR

COMMON HUB & SPINDLE COMPONENTS

- Spindle
- Inner Cone
- Inner Cup
- Dust Seal
- Hub
- Outer Cone
- Slotted Nut & Cotter Pin
- Dust Cap
- Flat Washer
- Outer Cup

⚠️ IMPORTANT: Be sure to block up unit securely before removing tires.

DISASSEMBLY

1. Remove dust cap.
2. Remove cotter pin from nut.
3. Remove nut and washer.
4. Pull hub off spindle.
5. Dislodge the inner cone bearing and dust seal.
6. Inspect cups that are press fitted into hub for pits or corrosion and remove if necessary.
7. Inspect and replace defective parts with new ones.

ASSEMBLY

1. If cups need replacing, be careful to install them gently and evenly into hub until they are fully seated.
3. Install inner cone and dust seal as illustrated.
4. Position hub onto spindle and fill surrounding cavity with grease.
5. Assemble outer cone, washer and nut.
6. Tighten nut while rotating hub until there is a slight drag.
7. Turn nut back approximately 1/2 turn to align cotter pin hole with notches on nut.
8. Install cotter pin and bend legs sideways over nut.
9. Fill dust cap half full of grease and gently tap into position.
10. Pump grease into hub through grease fitting until lubricant can be seen from dust seal.
HYDRAULIC CYLINDER REPAIR

PREPARATION

When cylinder repair is required, clean off unit, disconnect hoses and plug ports before removing cylinder.

When removed, open the cylinder ports and drain the cylinder’s hydraulic fluid.

Examine the type of cylinder. Make sure you have the correct tools for the job.

You may require the following tools:
- Proper Seal Kit
- Rubber Mallet
- Screwdriver
- Punch
- Pliers
- Emery cloth
- Torque Wrench

REPAIRING A WIRE RING CYLINDER

1. Retract the rod assembly.
2. Remove the external steel wire ring.
3. Remove any dirt that may have accumulated on the cylinder head.
4. Using the mallet and punch, push the head into the cylinder tube until the internal tube groove is fully exposed. This will also move the internal wire ring into its removal position.
5. Take the plastic removal ring from the seal kit:
   a) Straighten the ring and remove any kinks or excessive curl to make installation easier and prevent it from falling out.
   b) Insert the removal ring into the internal groove with the feathered end pointing into the tube.
   c) Use a screwdriver or a finger to hold one end of the ring in the groove while fitting the other end of the ring into the groove. The tips should snap in together. Ensure it is secure and fully seated before the next step.

IMPORTANT: It is important to ensure the removal ring is completely in the groove before pulling the rod out. If the ring sticks out it will get stuck between the head and tube.

Note: Excessive force will not overcome a jammed ring and could damage the cylinder.

6. a) Extend the rod to pull head out of tube. If the rod does not pull out easily, push the head back in and ensure the ring is properly in the groove. Replace ring if necessary.
7. Remove plastic removal ring from the cylinder tube.
8. Remove locknut, piston and head from rod.

9. a) Inspect and replace all of the seals with new components.
   b) Inspect the inside of the cylinder barrel, piston, rod and other polished parts for burrs and scratches. Smooth areas as needed with an emery cloth.
   c) During re-assembly of head/gland assembly, leave the outer O-Ring Dual Seal loose on the rod to re-install at a later step.

10. Replace piston and torque the locknut to required value. (Refer to chart below)

11. a) Install the supplied band clamp to compress the inner wire ring on the head/gland assembly so it will fit into the tube.
    Note: Make sure the cam of the band clamp is not overtop of the gap in the ring.
   b) Tighten the band clamp to ensure the wire ring is fully seated. Then, loosen the clamp approx. 1/2 a turn to allow band clamp to slide during final assembly.

12. Lubricate the cylinder tube and piston seals.

13. Insert the piston into the tube. Tap the cylinder head into the tube until the clamp slides over and the inner wire ring is inside the tube.

14. Loosen the clamp and remove.

15. Install the O-Ring Dual seal.

16. Tap the head the rest of the way until the end is flush with the tube.

17. Pull the rod out to expose the external wire ring groove in cylinder head, and then install the external ring.

18. Before using the cylinder, ensure that you double check your work.
Service & Maintenance

REPAIRING A THREADED HEAD CYLINDER

**Set Screw Style**

DISASSEMBLY

1. Loosen Set Screw and turn off end cap.
2. Carefully remove piston/rod/gland assemblies.
3. Disassemble the piston from the rod assembly by removing lock nut.

NOTE: **DO NOT** clamp rod by chrome surface.

4. Slide off gland assembly & end cap.
5. Remove seals and inspect all parts for damage.
6. Install new seals and replace damaged parts with new components.
7. Inspect the inside of the cylinder barrel, piston, rod and other polished parts for burrs and scratches. Smooth areas as needed with an emery cloth.

**REASSEMBLY**

1. Reinstall rod through end cap & gland assembly.
2. Secure piston to rod with lock nut. Torque lock nut to proper value (refer to chart on previous page for proper torque value).
3. Lube inside of barrel, piston seals, and gland seals with hydraulic oil.
4. With cylinder body held gently in a vise, insert piston, gland, end cap and rod combination using a slight rocking motion.
5. Apply Loctite anti-seize before installing cylinder end cap.
6. Torque cylinder end cap to 440 lb.ft (600 N.m).
7. Tighten Set Screw on end cap to 6 lb.ft (8 N.m).

**Locking Ring Style**

DISASSEMBLY

1. Loosen Locking Ring and turn off end cap.
2. Carefully remove piston, rod and end cap.
3. Disassemble the piston from the rod assembly by removing lock nut.

NOTE: **DO NOT** clamp rod by chrome surface.

4. Slide off end cap.
5. Remove seals and inspect all parts for damage.
6. Install new seals and replace damaged parts with new components.
7. Inspect the inside of the cylinder barrel, piston, rod and other polished parts for burrs and scratches. Smooth areas as needed with an emery cloth.

**REASSEMBLY**

1. Reinstall rod through end cap.
2. Secure piston to rod with lock nut. Torque lock nut to proper value (refer to chart on previous page for proper torque value).
3. Thread lock ring fully onto barrel.
4. Lube inside of barrel and piston seals with hydraulic oil.
5. With cylinder body held gently in a vise, insert piston, end cap and rod combination using a slight rocking motion.
6. Turn end cap fully against lock ring then back off end cap to align ports.
7. Tighten Locking Ring against end cap using a punch and hammer.
Pro-Till Overview

Exploded Overview of a 40' Pro-Till
Hitch Pole / Front Frame Components

Hitch Pole / Front Frame Overview

Transport Cylinder
123048/123605 (2)

Jack / Hydraulic Mount Frame

Front Hitch

Transport Cylinder

Hitch Pole Legs

Hitch Pole / Front Frame Components

Front Frame Components

572722 - Transport Wing Carrier Assembly (2)

572780 - Spacer (4) (33’ Pro-Till only)

118144 - Bolt, 5/16 x 1-1/2 (11)
780279 - Top Plate (11)
780278 - Hose Clamp - 2 Halves (11)

142969 - Decal, Float Cylinder (2)
(Same on Opposite Side)

143198 - Decal, Degelman - 8-1/4” (1)

117145 - Bushing (2)

142008 - Decal, Degelman - 6” (2)

118775 - Flat washer, 3/4 x 2 (8) - 40’ Pro-Till

118772 - Lock Washer, 3/4 GR8 (2)
118483 - Lock Nut, 1/4 - Unitorque (2)

118050 - Bolt, 3/4 x 3 (8) - 40’ Pro-Till

118040 - Bolt, 3/4 x 1 (2)

118635 - Flat Washer, 3/4 x 2-1/4 (2)

117414 - Lock Nut, 3/4 - Unitorque (8)

118149 - Bolt, 3/4 x 3-1/2 (8) - 40’ Pro-Till

118740 - Lock Washer, 3/4 GR8 (2)
118478 - Lock Nut, 1/4 - Unitorque (2)

Transport Wing Carrier Position
Pro-Till 33’

Transport Wing Carrier Position
Pro-Till 40’

Spacers

142969 - Decal, Float Cylinder (2)

142135 - SMV Sign (1)
mounts with...

142969 - Decal, Float Cylinder (2)

142135 - SMV Sign (1)
mounts with...
Hitch Pole Frame Components

Jack/Hydraulic Mount Frame Detail

118144 - Bolt, 5/16 x 1-1/2 (5)
780279 - Top Plate (5)
780278 - Hose Clamp - 2 Halves (5)

118483 - Lock Nut, 1/4 - Unitorque (4)
118555 - Flat Washer, 1/4 (8)
118447 - Lock Nut, 5/8 Unitorque (9)

117565 - Bolt, 1 x 4-1/2 UNC GR8 (7)
116302 - Safety Chain Assembly (1)
572570 - Front Hitch Plate (1)
131020 - Flat washer, 1 F436 (15)
118911 - Lock Nut, 1 (8)

572575 - Pole Leg Assembly - RH (1)
572576 - Pole Leg Assembly - LH (1)

142962 - Decal, Pro-Till 33 - 7" (2)
(142950 - Decal, Pro-Till 40 - 7"

142654 - Decal, Patented (1)

117565 - Bolt, 1 x 4-1/2 UNC GR8 (28)
131020 - Flat washer, 1 F436 (56)
118911 - Lock Nut, 1 (28)

572635 - Adapter Plate, Pin 2" (1)

NOTE: Add Blue Loctite to threads

Available for Purchase

143347 - PRO-TILL (08-September-2017)
**RH Wheelstrut Components**

- 117145 - Bushing (1)
- 142949 - Decal, Pro-Till 40 - 4" (1)
- 142961 - Decal, Pro-Till 33 - 4"
- 123052/123690 - RH Wheel Cylinder (1)
- 572655 - Wheel Strut Assembly - RH (1)

**Center Wheel Rockshaft Components**

- 572640 - Rockshaft Frame, Center wheel (1)
- Center Rockshaft Cylinder 123045/123680 (2)
- 117145 - Bushing (2)
- 142949 - Decal, Pro-Till 40 - 4" (1)
- 142961 - Decal, Pro-Till 33 - 4"

**Center Wheel Rockshaft Components**

- 118062 - Bolt, 3/4 x 5-1/2 GR8 (4)
- 117414 - Lock Nut, 3/4 GRC Unitorque (4)
- 131830 - Hub/Spindle Assembly (4) c/w 118712 - Nut, Wide Base 3/4 UNF GR8 (10)
- 131818 - Wheel Assembly, 382 Flotruck (2) c/w 131819 - Tire, 600/50R22.5 (1)
  - 131806 - Rim, 22.5 x 20.00 (1)
  - 127015 - Valve Stem, TR618A (1)

**Center Wheel Rockshaft Components**

- Tire pressure: 94 PSI (648 kPa)

**Center Wheel Rockshaft Components**

- 131840 - Dust Seal - CTD#SE48 (1)
- 131833 - Spindle S1010 - c/w Nut/washer (1)
- 131834 - Bearing Cup, Inner #39520 (1)
- 131835 - Bearing Cup, Outer #453-A (1)
- 131836 - Bearing Cone, Inner #39585 (1)
- 118723 - Stud, Wheel (Replacement Part)
- 118322 - Grease Fitting (1)
- 118334 - Bearing Cup, Inner #39520 (1)
- 118963 - Flat Washer, 1-1/4 GR8 (1)
- 118443 - Slotted Nut, 1-1/4 UNF (1)
- 118339 - Pin, Spindle Nut Retainer (1)
- 131837 - Bearing Cone, Outer #460 (1)
- 131841 - Gasket, 4 Hole - #SE49 (1)
- 131838 - Dust Cap - #DC27 (1)
- 118641 - Bolt, 5/16 x 1/2 (4)
- 118712 - Nut, Wide Base 3/4 UNF GR8 (10)

**RH Wheelstrut Components**

- 117145 - Bushing (1)
- 123052/123690 - RH Wheel Cylinder (1)
- 572655 - Wheel Strut Assembly - RH (1)

**Center Wheel Rockshaft Components**

- Tire pressure: 58 PSI (400 kPa)

**Center Wheel Rockshaft Components**

- 131803 - Wheel Assembly, FL630 Plus (2) c/w 131807 - Tire, 600/50R22.5 (1)
  - 131806 - Rim, 22.5 x 20.00 (1)
  - 127015 - Valve Stem, TR618A (1)

**Center Wheel Rockshaft Components**

- Wheel Nut Torque
  - 3/4": 280-300 lb.ft (380-405 N.M)

**Bolt Pattern**

10 BOLT PATTERN
### Wing Frame Components

**Wing Frame Components (LH Shown)**

- 118635 - Flat washer, 3/4 x 2-1/4 (2)
- 118772 - Lock Washer, 3/4 GR8 (2)
- 118040 - Bolt, 3/4 x 1-1/2 (2)
- 118027 - Bolt, 5/8 x 2 GR8 (1)
- 118447 - Lock Nut, 5/8 - Unitorque (1)
- 572734 - Pin, 2 x 6-3/8 (1)
- 572720 - Roller Bushing (1)
- 572883 - Wing Frame Assembly - LH (shown) (1)
- 572882 - Wing Frame Assembly - RH (opposite) (1)
- 117145 - Bushing (3)
- 142557 - Decal, Reflector Amber - 2 x 9 (1)
- 142969 - Decal, Float Cylinder (2)

**Cast Bearing Assembly (4)**

(Component parts & breakdown shown on page 23)

- 118451 - Jam Nut, 1-1/2 GR2 (2)
- 118027 - Bolt, 5/8 x 2 GR8 (1)
- 118447 - Lock Nut, 5/8 Unitorque (1)
- 572793 - Roller Frame Assembly, LH Wing (shown) (1)
- 572892 - Roller Frame Assembly, RH Wing (opposite) (1)

**Important:**

Add Blue Loctite to threads. Torque to: 80 lb-ft (108 N-m)

- 572876 - Spacer, Bushing (4)
- 117168 - Bearing Unit, TriSeal (2)
- 117169 - Bearing Housing, 4 Hole (1)
- 117170 - Bearing Insert, TriSeal (1)

**Wing Roller Frame (LH Shown)**

- 123045/123680 - Wing Roller Cylinder (1)
- 118144 - Bolt, 5/16 x 2-1/2 GR8 (8)
- 118105 - Bolt, 5/16 x 2-1/2 (8)
- 131845 - Rubber Roller Assembly, LSTX 3m (1)
- 572440 - Cage Roller Assembly - 3m (1)
- 572428 - Washer Endplate, 2 Hole (2)

**Important:**

Setscrew MAX Torque is 21 lb-ft (29 N-m), Do not over-torque.

- 117155 - Bearing Unit, TriSeal (2)
- 117156 - Bearing Housing, 4 Hole (1)
- 117175 - Bearing Insert, TriSeal (1)

**Obsolete Bearing & Bushing**

Replace with new only - See Above

- 572787 - Spacer, Bushing (2)
- 117155 - Bearing Unit, TriSeal (2)
- 117156 - Bearing Housing, 4 Hole (1)
- 117175 - Bearing Insert, TriSeal (1)
Scraper Components

Scraper Section Overview

- 572940 - Scraper, 31 Section - 4m (1)
- 572950 - Scraper, 23 Section - 3m (1)

Scraper Section Component Overview

- 572940 - Scraper, 31 Section - 4m (shown)
- 572950 - Scraper, 23 Section - 3m

Scraper Position Overview

- Storage Position: Remove the 4 bolts to rotate into or out of "Storage position", then re-install.
- Maintenance Position: Loosen the 4 bolts to rotate into "Maintenance position" & secure.
- Engaged Position: Loosen the 4 bolts to rotate. Set the Scraper-to-Roller Gap distance between 1/4" to 3/8" then properly tighten.

Standard - Scraper Blade Kits - c/w Bolts & Locknuts.

33' Kit 572675 (Set of 77) 40' Kit 572750 (Set of 93)

Heavy Duty Replacement Scraper Blades requires new hardware (Bolts & Locknuts)

Note: Replacement part only. Works best only after roller has been run and has relaxed into its permanent shape.

Must purchase by QTY (ProTill Model: 33'-77 or 40'-93)

573320 - Scraper Blade, HD - 3/8
118279 - Bolt, 1/2 x 1-1/2 GR8
118729 - Lock Nut, 1/2 Unitorque

Max-Life Replacement Scraper Blades requires new hardware (Locknuts)

Note: Complete section must be changed at the same time when blades are being reversed or adjustment will not work properly.

Double Sided Blades replace previous single blade style.

Wear Edge down

Max-Life with Wear

Install with Wear
Rubber Roller Components

Roller Assembly Overview

131730 - Tube Assembly - 3m (1)
131816 - Tube Assembly - 4m (shown) (1)

LSTX Roller

131846 - End Rubber Ring LSTX (2)
131845 - Roller Assembly, LSTX 3m (1)

131729 - Roller Assembly, LTX 3m (1)

LTX Roller

131848 - Middle Rubber Ring LTX (2)
131847 - Standard Rubber Ring LSTX (20 or 28)

Common Roller End Assembly Components

131722 - Axle Lock Nut (2)
131723 - Axle Lock Washer (2)
131716 - Axle Key (2)

131712 - End Plate (2)
131717 - End Axle Shaft (2)
131725 - Washer, Roller End Plate (12)
117572 - Bolt, M14 x 50 - 10.9 (12)
Disc Gang Components - Pro-Till 33’ (10m)

Disc Gang Assembly Mounting (20)

- 572891 - V-Clamp (1)
- 118134 - Bolt, 1 x 3 GR8 (2)
- 131020 - Flat Washer, 1 F436 (4)
- 118911 - Lock Nut, 1 GRC (2)

572907 - Gang Section Assembly (1)

- c/w 572910 - Gang Mounting Arm (1)

# Discs 11-20” 1-18”

572905 - Gang Section Assembly (1)

- c/w 572897 - Gang Mounting Arm (1)

# Discs 10-20” 1-18”

Note: A Smaller 18” disc is used for outer end disc on wing sections. Location is shown in diagrams.

143550 - Disc, 18” (4)

572902 - Gang Section Assembly (1)

- c/w 572909 - Gang Mounting Arm (1)

# Discs 16-20”

572906 - Gang Section Assembly (1)

- c/w 572898 - Gang Mounting Arm (1)

# Discs 10-20” 1-18”

572900 - Gang Section Assembly (1)

- c/w 572909 - Gang Mounting Arm (1)

# Discs 16-20”

572904 - Gang Section Assembly (1)

- c/w 572910 - Gang Mounting Arm (1)

# Discs 11-20” 1-18”

Standard Front Row Disc Assembly Components

117580 - Bolt, Carriage - 5/8 x 2-1/4 GR8 (4)
572404 - Disc Arm Clamp Plate (1)
143549 - Rubber Insert (4)
572401 - Disc Arm Assembly, Front Row (1)
117581 - Lock Nut, Top Flanged - 5/8 GRG (4)
118635 - Flat Washer, 3/4 x 2-1/4 (1)
118175 - Bolt, 3/4 x 1-1/2 UNF GR8 (1)
131710 - Flange Unit (1)
118468 - Nut, 1/2 - Flange (4)
131710 - Disc Hub Unit (1)

IMPORTANT: Add Blue Loctite to threads & Torque to: 350 lb-ft (475 N-m)

Optional
143557 - Disc, Notched 20” (1)
143556 - Disc, 20” (1)
118279 - Bolt, 1/2 x 1-1/2 GR8 (4)

118635 - Flat Washer, 3/4 x 2-1/4 (1)
118175 - Bolt, 3/4 x 1-1/2 UNF GR8 (1)
131710 - Disc Hub Unit (1)

IMPORTANT: Add Blue Loctite to threads & Torque to: 350 lb-ft (475 N-m)

Standard Back Row Disc Assembly Components

572404 - Disc Arm Clamp Plate (1)
143549 - Rubber Insert (4)
117580 - Bolt, Carriage - 5/8 x 2-1/4 GR8 (4)
117581 - Lock Nut, Top Flanged - 5/8 GRG (4)
118468 - Nut, 1/2 - Flange (4)
143557 - Disc, Notched 20” (1)
131710 - Disc Hub Unit (1)
118279 - Bolt, 1/2 x 1-1/2 GR8 (4)
118635 - Flat Washer, 3/4 x 2-1/4 (1)
118175 - Bolt, 3/4 x 1-1/2 UNF GR8 (1)
121080 - O-Ring, Nitrile M6 x 88 (1)
121081 - O-Ring, Nitrile #342 (1)

Replacement O-Rings

117580 - Bolt, Carriage - 5/8 x 2-1/4 GR8 (4)
118468 - Nut, 1/2 - Flange (4)
131710 - Disc Hub Unit (1)

GBGI - No Marks

INA - Markings

GBGI - No Marks
Disc Gang Components - Pro-Till 40' (12m)

Standard Front Row Disc Assembly Components

- IMPORTANT: Safely secure Pro-Till in winged forward transport position when changing or servicing discs.

- 117580 - Bolt, Carriage - 5/8 x 2-1/4 GR8 (4)
- 572404 - Disc Arm Clamp Plate (1)
- 143549 - Rubber Insert (4)
- 572401 - Disc Arm Assembly, Front Row (1)
- 117581 - Lock Nut, Top Flanged - 5/8 GRG (4)
- 118635 - Flat Washer, 3/4 x 2-1/4 (1)
- 118175 - Bolt, 3/4 x 1-1/2 UNF GR8 (1)

Optional
- 143557 - Disc, Notched 20" (1)
- 143556 - Disc, 20" (1)

- 118279 - Bolt, 1/2 x 1-1/2 GR8 (4)
- 131710 - Disc Hub Unit (1)
- 118468 - Nut, 1/2 - Flange (4)

- 118911 - Bolt, 3/4 x 1-1/2 UNF GR8 (1)

IMPORTANT: Add Blue Loctite to threads & Torque to 350 lb-ft (475 N-m)

Standard Back Row Disc Assembly Components

- 572404 - Disc Arm Clamp Plate (1)
- 143549 - Rubber Insert (4)
- 117580 - Bolt, Carriage - 5/8 x 2-1/4 GR8 (4)
- 117581 - Lock Nut, Top Flanged - 5/8 GRG (4)
- 118468 - Nut, 1/2 - Flange (4)
- 131710 - Disc Hub Unit (1)

Optional
- 143557 - Disc, Notched 20" (1)
- 118279 - Bolt, 1/2 x 1-1/2 GR8 (4)

- 131710 - Disc Hub Unit (1)
- 118468 - Nut, 1/2 - Flange (4)
- 118279 - Bolt, 1/2 x 1-1/2 GR8 (4)

- 118635 - Flat Washer, 3/4 x 2-1/4 (1)
- 118175 - Bolt, 3/4 x 1-1/2 UNF GR8 (1)

- 121080 - O-Ring, Nitrile M6 x 88 (1)
- 121081 - O-Ring, Nitrile #342 (1)

- IMPORTANT: Add Blue Loctite to threads & Torque to 350 lb-ft (475 N-m)

- 121080 - O-Ring, Nitrile M6 x 88 (1)
- 121081 - O-Ring, Nitrile #342 (1)

- 121080 - O-Ring, Nitrile M6 x 88 (1)
- 121081 - O-Ring, Nitrile #342 (1)
**Hydraulic Cylinders**

**Hydraulic Cylinder Locations**

123050/123540 Wing Cylinder
123052/123690 Wheel Cylinder
123045/123680 Rockshaft Front Depth Cylinder
123045/123680 Rockshaft Rear Depth Cylinder
123048/123605 Transport Cylinders
123055/123503 Jack Cylinder
123691 - Flip Stop, Lower (7)
123689 - Flip Stop, Upper (8)
123688 - Bushing (2)
123045/123680 Roller Rear Depth Cylinder
123052/123690 Wheel Cylinder

**Depth Stop Configurations**

NOTE: Depth Stop components are identical for left hand or right hand configurations. The Cylinder Pins might be installed on either LH or RH side of the clevis. Please note proper orientation if reinstalling to avoid problems.

**Depth Stop Components**

118511 - Flat Washer, 3/8 (2)
118417 - Lock Nut, 3/8 (2)
118946 - Lock Nut, 1-1/4 UNF GR5 Unitorque (1)
123685 - Piston (1)
123572 - Barrel (1)
123586 - Lock Ring (1)
123584 - Open Cap (1)
123687 - Rod & Clevis w/stop (1)
123670 - Pin, 1-1/2 x 2-3/4 (2)
118924 - Flat Washer, .59 ID x .9 OD (2)
118796 - Bolt, Shoulder - 1/2 GR8 UNC (2)
117589 - Pin, Self-lock - 3/8 x 5 (1)
123691 - Flip Stop, Lower (7)
123689 - Flip Stop, Upper (8)
123698 Bolt Plate (1)
123690 - Cylinder, 4-1/4 x 8 x 2

**Master Cylinder with Spacer Stop**

123680 - Cylinder, 4-1/4 x 8 x 2
118946 - Lock Nut, 1-1/4 UNF GR5 Unitorque (1)
123685 - Piston (1)
123687 - Seal Kit (1)
123572 - Barrel (1)
123586 - Lock Ring (1)
123584 - Open Cap (1)
123687 - Rod & Clevis w/stop (1)
123670 - Pin, 1-1/2 x 2-3/4 (2)
118924 - Flat Washer, .59 ID x .9 OD (2)
118796 - Bolt, Shoulder - 1/2 GR8 UNC (2)

**Depth Stop Decals**

142976 - Decal, Rear Disc Depth - Loc 2 (1)
142977 - Decal, Rear Disc Depth - Loc 3 (1)
142979 - Decal, Rear Disc Depth - Loc 4 (1)
142978 - Decal, Rear Disc Depth - Loc 1 (1)
Hydraulic Cylinders

**Jack Cylinder**
123503 - Cylinder, 4 x 8 x 2 (1-1/4" Pin Eye)
- or -
123055 - Cylinder, Monarch - 4 x 8 x 2
(Seal Kit: 123049)

**Slave Cylinder**
123690 - Cylinder, 3-3/4 x 8 x 2
- or -
123052 - Cylinder, Monarch - 3-3/4 x 8 x 2
(Seal Kit: 123051)

**Wing Cylinder**
123540 - Cylinder, 4 x 28 x 2
- or -
123050 - Cylinder, Monarch - 4 x 28 x 2
(Seal Kit: 123049)

**Transport Cylinder**
123048 - Cylinder, Monarch - 5-1/2 x 42 x 2-1/2
(Seal Kit: 123047)
- or -
123605 - Cylinder, 5-1/2 x 42 x 2-1/2
121228 - Lock Nut, 1-1/2 UNF GR5 (1)
123669 - Barrel (1)
123620 - Piston (1)
123509 - Lock Ring (1)
123618 - Open Cap (1)
123618 - Seal Kit (1)
123607 - Rod & Clevis (1)
118796 - Bolt, Shoulder - 1/2 GR8 UNC (2)
118924 - Flat Washer, .59 ID x .9 OD (2)
123562 - Pin, 1-1/2 x 3-1/4 (2)

Previous: 123550 - Cylinder 5-1/2 x 42 x 2-1/2
118946 - Lock Nut, 1-1/4 UNF GR5 Unitorque (1)
123552 - Barrel (1)
123620 - Lock Ring (1)
123618 - Open Cap (1)
123618 - Seal Kit (1)
123562 - Rod & Clevis (1)
123562 - Pin, 1-1/2 x 3-1/4 (2)
118796 - Bolt, Shoulder - 1/2 GR8 UNC (2)
118924 - Flat Washer, .59 ID x .9 OD (2)
Hydraulic Layout - 1 - Wheels

Hydraulic Fittings Required
1. 141581 - Quick Coupler-m - 3/4 ORB (2)
2. 141676 - Nipple, 3/4 ORB-m (2)
3. 141684 - Coupler, Green (+) (1)
4. 141685 - Coupler, Green (-) (1)
5. 141515 - Connector, 3/4 JIC-m x ORB (2)
6. 141504 - Elbow, 90° 3/4 JIC m x ORB m (6)
7. 141505 - Tee, 3/4 JIC m x m x 3/4 ORB m (2)
8. 141518 - 90° Elbow, 3/4 JIC-m x 3/4 JIC-f-sw (3)
9. 126702 - Wrap, Hose/Cable - 24” (2)

Required Hoses for Wheel Cylinders
- 126655 - Hose, 3/8 x 540 (1)
- 126617 - Hose, 3/8 x 408 (1)
- 126662 - Hose, 3/8 x 390 (1)
- 126626 - Hose, 3/8 x 168 (3)
- 123045 - Cylinder, Monarch, 4-1/4 x 8 x 2 (1)
  (Seal Kit: 123046)
- 123052 - Cylinder, Monarch, 3-3/4 x 8 x 2 (1)
  (Seal Kit: 123051)
- 123690 - Cylinder, 3-3/4” x 8” x 2” (1)
  -or-
- 123690 - Cylinder, 3-3/4” x 8” x 2” (1)
  -or-
- 99 - Wrap, Hose/Cable - 24” (2)
Hydraulic Layout - 1 - Wheels

Pro-Till 40' (12m)

Hydraulic Fittings Required

1 141581 - Quick Coupler-m - 3/4 ORB (2)
2 141676 - Nipple, 3/4 ORB-m (2)
3 141684 - Coupler, Green (+) (1)
4 141685 - Coupler, Green (-) (1)
5 141515 - Connector, 3/4 JIC-m x ORB (2)
6 141504 - Elbow, 90° 3/4 JIC m x ORB m (6)
7 141505 - Tee, 3/4 JIC m x m x 3/4 ORB m (2)
8 141518 - 90° Elbow, 3/4 JIC-m x 3/4 JIC-f-sw (3)
9 126702 - Wrap, Hose/Cable - 24" (2)

Required Hoses for Wheel Cylinders

126107 - Hose, 3/8 x 582 (1)
126653 - Hose, 3/8 x 480 (1)
126662 - Hose, 3/8 x 390 (1)
126666 - Hose, 3/8 x 192 (2)
126626 - Hose, 3/8 x 168 (1)

123052 - Cylinder, Monarch, 3-3/4 x 8 x 2 (1) (Seal Kit: 123051)
123045 - Cylinder, Monarch, 4-1/4 x 8 x 2 (1) (Seal Kit: 123046)
123052 - Cylinder, Monarch, 3-3/4 x 8 x 2 (1) (Seal Kit: 123051)
123690 - Cylinder, 3-3/4" x 8" x 2" (1)

123680 - Cylinder, 4-1/4" x 8" x 2" (2)

141581 - Quick Coupler, 3/4 ORB (2)
141676 - Nipple, 3/4 ORB-m (2)
141684 - Coupler, Green (+) (1)
141515 - Nipple, 3/4 JIC-m x ORB-m (2)
Hydraulic Layout - 2 - Rollers

Pro-Till 33' (10m)

Hydraulic Fittings Required
1. 141581 - Quick Coupler-m - 3/4 ORB (2)
2. 141676 - Nipple, 3/4 ORB-m (2)
3. 141682 - Coupler, Blue (+) (1)
4. 141683 - Coupler, Blue (-) (1)
5. 141515 - Connector, 3/4 JIC-m x ORB (2)
6. 141504 - Elbow, 90° 3/4 JIC-m x ORB-m (6)
7. 141505 - Tee, 3/4 JIC-m x m x 3/4 ORB-m (1)
8. 141518 - 90° Elbow, 3/4 JIC-m x 3/4 JIC-f-sw (3)
9. 126702 - Wrap, Hose/Cable - 24" (2)

Required Hoses for Roller Cylinders
- 126654 - Hose, 3/8 x 510 (1)
- 126662 - Hose, 3/8 x 390 (2)
- 126648 - Hose, 3/8 x 180 (2)
- 126677 - Hose, 3/8 x 126 (1)

- or -
- 123045 - Cylinder, Monarch, 4-1/4 x 8 x 2 (1)
  (Seal Kit: 123049)
- 123052 - Cylinder, Monarch, 3-3/4 x 8 x 2 (1)
  (Seal Kit: 123051)
- 123680 - Cylinder, 4-1/4" x 8" x 2" (1)
- 123690 - Cylinder, 3-3/4" x 8" x 2" (2)
- 123045 - Cylinder, Monarch, 4-1/4 x 8 x 2 (1)
  (Seal Kit: 123049)
**Hydraulic Layout - 2 - Rollers**

### Hydraulic Fittings Required

1. 141581 - Quick Coupler-m - 3/4 ORB (2)
2. 141676 - Nipple, 3/4 ORB-m (2)
3. 141682 - Coupler, Blue (+) (1)
4. 141683 - Coupler, Blue (-) (1)
5. 141515 - Connector, 3/4 JIC-m x ORB (2)
6. 141504 - Elbow, 90° JIC-m x ORB-m (6)
7. 141505 - Tee, 3/4 JIC-m x m x 3/4 ORB-m (1)
8. 141518 - 90° Elbow, 3/4 JIC-m x 3/4 JIC-f-sw (3)
9. 126702 - Wrap, Hose/Cable - 24" (2)

### Required Hoses for Roller Cylinders

- 126699 - Hose, 3/8 x 522 (1)
- 126617 - Hose, 3/8 x 408 (1)
- 126662 - Hose, 3/8 x 390 (1)
- 126648 - Hose, 3/8 x 180 (2)
- 126677 - Hose, 3/8 x 126 (1)

- **or**

- 123045 - Cylinder, Monarch, 4-1/4 x 8 x 2 (1) (Seal Kit: 123049)
- 123052 - Cylinder, Monarch, 3-3/4 x 8 x 2 (1) (Seal Kit: 123051)
- 123680 - Cylinder, 4-1/4" x 8" x 2" (1)
- 123690 - Cylinder, 3-3/4" x 8" x 2" (2)
- 123680 - Cylinder, 4-1/4" x 8" x 2" (1)
- 123045 - Cylinder, Monarch, 4-1/4 x 8 x 2 (1) (Seal Kit: 123049)
Hydraulic Layout - 3 - Transport

Hydraulic Fittings Required

1 141581 - Quick Coupler-m - 3/4 ORB (2)
2 141676 - Nipple, 3/4 ORB-m (2)
3 141686 - Coupler, Brown (+) (1)
4 141687 - Coupler, Brown (-) (1)
5 141515 - Connector, 3/4 JIC-m x ORB (2)
6 141504 - Elbow, 90° 3/4 JIC m x ORB m (2)
7 141505 - Tee, 3/4 JIC m x m x 3/4 ORB m (2)
8 141518 - 90° Elbow, 3/4 JIC-m x 3/4 JIC-f-sw (4)

Required Hoses for Transport Cylinders

1 126090 - Hose, 3/8 x 312 (1)
2 126668 - Hose, 3/8 x 264 (1)
3 126666 - Hose, 3/8 x 192 (1)
4 126507 - Hose, 3/8 x 110 (1)
5 123605 - Cylinder, 5-1/2 x 42 x 2-1/2 (2)
[Seal Kit: 123047]
6 123048 - Cylinder, Monarch, 5-1/2 x 42 x 2-1/2 (2)
[Seal Kit: 123047]

- or -

141515 - Nipple, 3/4 JIC-m x ORB-m (2)
141676 - Nipple, 3/4 ORB-m (2)
141687 - Coupler, Brown (-) (1)
141686 - Coupler, Brown (+) (1)
Hydraulic Layout - 4 - Wings

Hydraulic Fittings Required

1. 141581 - Quick Coupler-m - 3/4 ORB (2)
2. 141676 - Nipple, 3/4 ORB-m (2)
3. 141688 - Coupler, Black (+) (1)
4. 141689 - Coupler, Black (-) (1)
5. 141515 - Connector, 3/4 JIC-m x ORB (6)
6. 141504 - Elbow, 90° 3/4 JIC m x ORB m (2)
7. 141505 - Tee, 3/4 JIC m x m x 3/4 ORB m (2)
8. 141518 - 90° Elbow, 3/4 JIC-m x 3/4 JIC-f-sw (5)
9. 141609 - Adaptor, 3/4 JIC - 1/16 Orifice (1)
10. 141524 - Relief Valve, 2000 PSI - 3/4 ORB (1)

Required Hoses for Wing Cylinders

- 126618 - Hose, 3/8 x 436 (1)
- 126617 - Hose, 3/8 x 408 (1)
- 126652 - Hose, 3/8 x 100 (2)
- 126577 - Hose, 3/8 x 70 (2)

123540 - Cylinder, 4" x 28" x 2" (1)

-or-

123050 - Cylinder, Monarch, 4 x 28 x 2 (1) (Seal Kit: 123049)

IMPORTANT: Angle the fitting and hose downward at the angle shown (passing through pin head) to avoid contact with frame when folded into transport position.
Hydraulic Layout - 5 - Jack

Hydraulic Fittings Required

1. 141581 - Quick Coupler - 3/4 ORB (2)
2. 141676 - Nipple, 3/4 ORB-m (2)
3. 141680 - Coupler, Grey (+) (1)
4. 141681 - Coupler, Grey (−) (1)
5. 141515 - Connector, 3/4 JIC-m x ORB (4)
6. 141504 - Elbow, 90° 3/4 JIC-m x ORB-m (1)
7. 141597 - Ball Valve - 3/4 ORB (1)
8. 141609 - Adaptor, 3/4 JIC - 1/16 Orifice (1)
9. 141695 - Elbow, 90° 3/4 JIC-f-sw x ORB-m (1)

Required Hoses for Jack Cylinders

94. 126541 - Hose, 3/8 x 94 (1)
110. 126507 - Hose, 3/8 x 110 (1)

Alternate Hoses for Jack Cylinders

126503 - Hose, 3/8 x 82 (2)
126585 - Hose, 3/8 x 25 (1)
126596 - Hose, 3/8 x 13 (1)

141581 - Quick Coupler, 3/4 ORB (2)
141676 - Nipple, 3/4 ORB-m (2)
141681 - Coupler, Grey (−) (1)
141515 - Nipple, 3/4 JIC-m x ORB-m (2)

141581 - Quick Coupler, 3/4 ORB (2)
141676 - Nipple, 3/4 ORB-m (2)
141681 - Coupler, Grey (−) (1)
141515 - Nipple, 3/4 JIC-m x ORB-m (2)

123503 - Cylinder, 4 x 8 x 1-1/4 (1)
123555 - Cylinder, Monarch, 4 x 8 x 2 (1)

Seal Kit: 123054

IMPORTANT:
Close the ball valve to prevent accidental operation of this circuit. Ensure ball valve handle remains in closed position.

Previous Jack Configuration
(models S/N: 1040-1246)

141595 - Dual Check Valve - #8 ORB (1)
123503 - Cylinder, 4 x 8 x 1-1/4 (1)

Open

Closed

Ball Valve

Closed Position

V1

V2
Light Routing & Components

Rear Light Configuration & Components

Wire Harness - w/plugs (1)
572785 - Pro-Till, Wire Harness

244591 - Dual Lamp (1)
244590 - Dual Lamp (1)

Light Bracket Location & Components

572511 - Light Bracket, RH (1)
117486 - Bolt, 3/4 x 2-3/4 (4)
117414 - Lock Nut, 3/4 - Unitorque (4)
118541 - Flat Washer, 1/4 SAE (8)
118483 - Lock Nut, 1/4 - Unitorque (8)
117586 - Bolt, 1/4 x 1-1/2 (8)

572510 - Light Bracket, LH (1)
244590 - Dual Lamp, RH (1)
244591 - Dual Lamp, LH (1)
133009 - Hose/Cable Ties (6)
Dirt Deflector Components & Adjustments

Dirt deflector is located on outer edge of the right wing frame.

**Deflector Setting when not Operating the Frame Level**

Note: If running Nose up or Nose down, adjust deflector accordingly.

**IMPORTANT:** You may need to adjust the deflector height according to soil penetration. Best setting is when deflector runs on the ground.

**DEFLECTOR HEIGHT PIN POSITIONS**

<table>
<thead>
<tr>
<th>Pin Position</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1</td>
<td>&quot;5&quot;</td>
</tr>
<tr>
<td>P2</td>
<td>6&quot;</td>
</tr>
<tr>
<td>P3</td>
<td>4-1/2&quot;</td>
</tr>
<tr>
<td>P4</td>
<td>3&quot;</td>
</tr>
<tr>
<td>P5</td>
<td>1-1/2&quot;</td>
</tr>
</tbody>
</table>

**RECOMMENDED PROCEDURE TO SET DEFLECTOR HEIGHT:**
1. Run the machine with discs set to the proper depth.
2. Stop the machine.
3. Adjust the 5-sided pin to the height where the deflector is running on the ground.
2 Year
Limited Warranty - Agricultural Products

Degelman Industries Ltd. ("Degelman") warrants to the original purchaser of any new Degelman equipment, purchased from an authorized Degelman dealer, that the equipment will be free from defects in material and workmanship for a period of two (2) years from the date of delivery, for non-commercial use (including farm, institutional, government, and municipality) and (1) year from the date of delivery for commercial use. The obligation of Degelman to the purchaser under this warranty is limited to the repair or replacement of defective parts in the first year and to the provision, but not the installation of replacement parts in the second year. Degelman reserves the right to inspect any equipment or parts which are claimed to have been defective in material or workmanship.

This warranty limits its replacement or repair coverage to what is consistent with the warranty of Degelman’s suppliers of purchased components.

Replacement or repair parts installed in the equipment covered by this limited warranty are warranted for ninety (90) days from the date of delivery of such part or the expiration of the applicable new equipment warranty period, whichever occurs later. Warranted parts shall be provided at no cost to the user at an authorized Degelman dealer during regular working hours. Warranted replacement parts will either be replaced or rebuilt at Degelman’s discretion.

Disclaimer of implied warranties & consequential damages

This warranty shall not be interpreted to render Degelman Industries Ltd. liable for injury, death, property damage or damages of any kind, whether direct, consequential, or contingent to property. Without limiting the generality of the foregoing, Degelman shall not be liable for damages resulting from any cause beyond its reasonable control, including, without limitation, loss of crops, any expense or loss of labour, supplies, rental machinery or loss of use.

No other warranty of any kind whatsoever, express or implied is made with respect to this sale; and all implied warranties of merchantability and fitness for a particular purpose which exceed the obligations set forth in this written warranty are hereby disclaimed and excluded from this sale. This exclusion shall not apply in any jurisdiction where it is not permitted by law.

This limited warranty shall not apply:

1. If, in the sole opinion of Degelman, the unit has been subjected to misapplication, abuse, misuse, negligence accident or incorrect off-site machine set-up.

2. To any goods that have sustained damage or deterioration attributable to a lack of routine maintenance (e.g., Check and Re-torque of fastening hardware, Hydraulic fluid purities, drive train alignments, and clutch operation)

3. If parts not made or supplied by Degelman have been used in the connection with the unit, if, in the sole judgement of Degelman such use affects its performance, safety, stability or reliability.

4. If the unit has been altered or repaired outside of an authorized Degelman dealership in a manner which, in the sole judgement of Degelman, affects its performance, safety, stability or reliability.

5. To expendable or wear items such as (eg. Harrow tines, Rock Picker and Rock Rake wear teeth and replaceable bushings and pins,) and any other items that in the company’s sole judgement are a wear item.

No employee or representative of Degelman Industries Ltd. is authorized to change this limited warranty in any way or grant any other warranty unless such change is made in writing and signed by the Degelman Service Manager.

This limited warranty is subject to any future availability of supply, which may directly affect Degelman’s ability to obtain materials or manufacture replacement parts.

Degelman reserves the right to make improvements in design or changes in specifications at any time, without incurring obligations to owners of equipment previously delivered.

This limited warranty is subject to compliance by the customer to the enclosed Retail Customer’s Responsibility Under Degelman Warranty.
Warranty

Retail Customer’s Responsibility Under Degelman Warranty.

It is the retail customer and/or Operator’s responsibility to read the Operator’s Manual, to operate, lubricate, maintain and store the equipment in accordance with all instructions and safety procedures. Failure of the operator to read the operators manual is a misuse of this equipment.

It is the retail customer and/or operators responsibility to inspect the product and to have any part(s) repaired or replaced when continued operation would cause damage or excessive wear to other parts or cause safety hazard.

It is the retail customer’s responsibility to deliver the product to the authorized Degelman dealer, from whom he purchased it, for service or replacement of defective parts, which are covered by warranty. Repairs to be submitted for warranty consideration must be made within forty-five days of failure.

It is the Retail Customer’s responsibility for any cost incurred by the dealer for hauling of the product for the purpose of performing a warranty obligation or inspection.

WARRANTY INFORMATION

Make certain the warranty registration card has been forwarded to: Degelman Industries Ltd.

Box 830 -272 Industrial Dr.
Regina, SK, Canada
S4P 3B1

Always give your dealer the serial number of your Degelman product when ordering parts or requesting service or other information.

The serial number is located on the machine as shown in the diagram below. In the space provided record the model number, the serial number and the date of purchase to assist your dealer in providing you with prompt and efficient service.

SERIAL NUMBER: ____________________________

MODEL NUMBER: ____________________________

DATE OF PURCHASE: _________________________

NOTICE

PATENTED

United States Patent:
US D708,835 S
Canadian Industrial Design:
Registration 153586
Other Patents Pending