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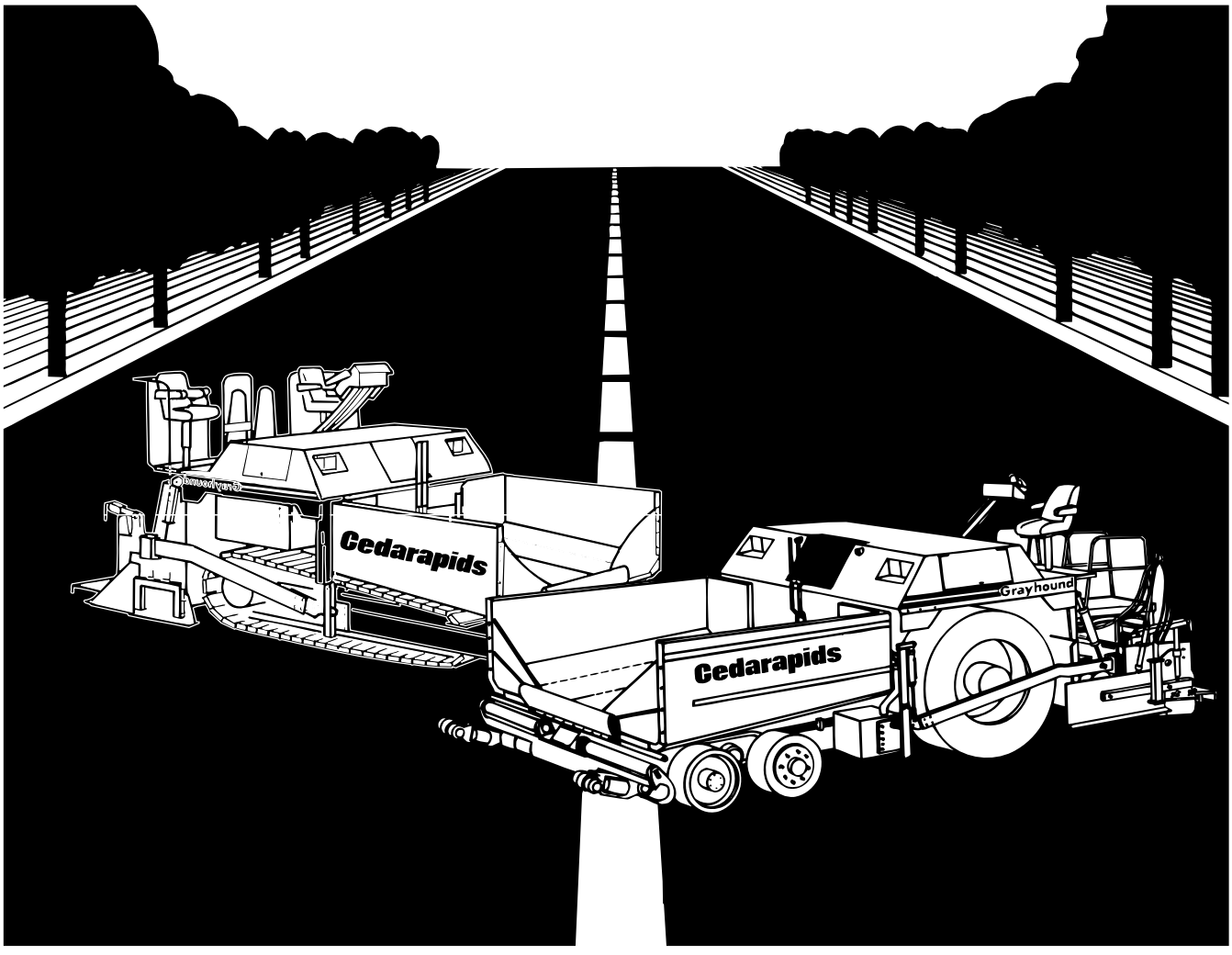
A Terex Company

Grayhound Wear Check Guide Book



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Part # 49999-151

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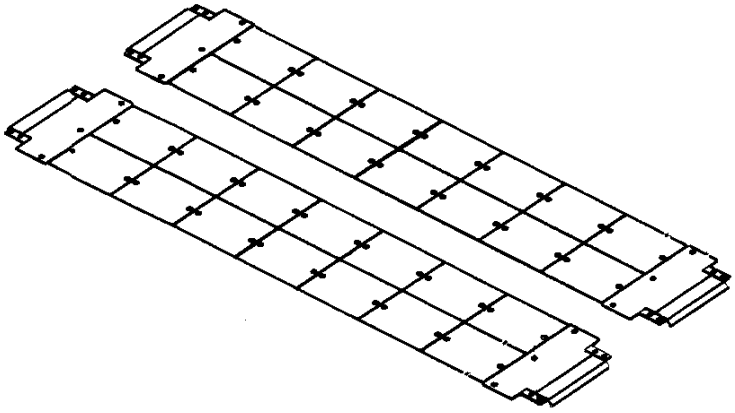
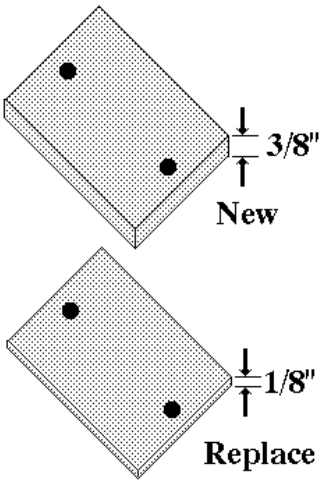
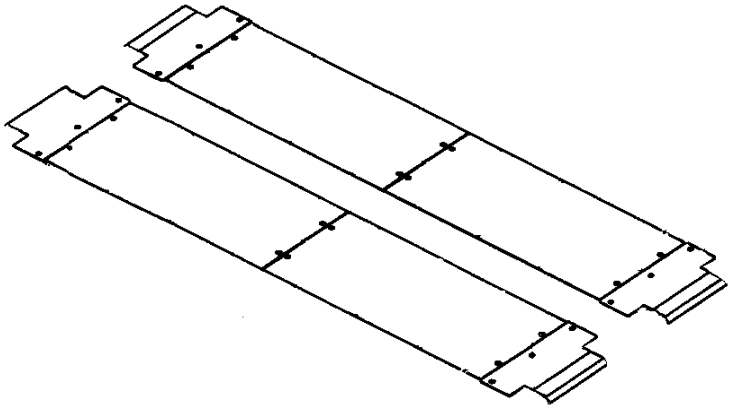
Conveyor Deck Liners

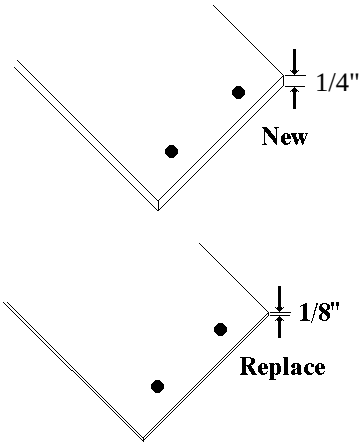
The 400 and 500 series Grayhound Pavers are equipped with segmented High Alloy deck liners to provide extended life and reduced costs in the most severe of operational conditions. High Alloy deck liners are 3/8 inch (9.53mm) thick when new. When worn to approximately 1/8 inch (3.18mm) they should be replaced.





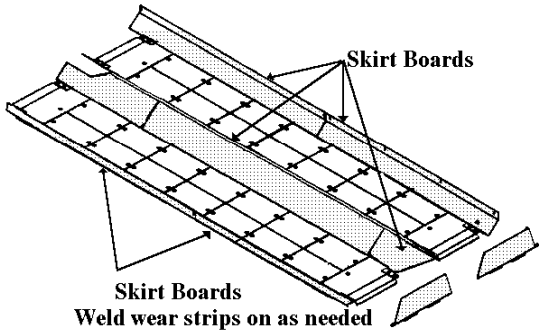
The 300 series Grayhound Pavers are equipped with High Alloy deck liners to provide extended life and reduced costs in the most severe of operational conditions. High Alloy deck liners are 1/4 inch (6.35mm) thick when new. When worn to approximately 1/8 inch (3.18mm) they should be replaced.





Skirt Boards

The skirt boards that are installed in the feeder chamber are normally field repaired when wear occurs. This is usually done by welding wear strips to the worn areas.



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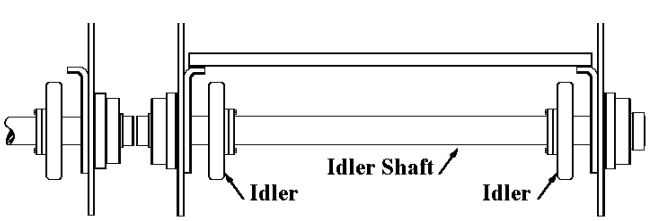
Feeder System

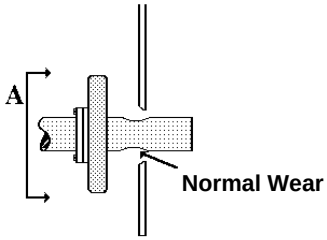
Front Conveyor Idlers

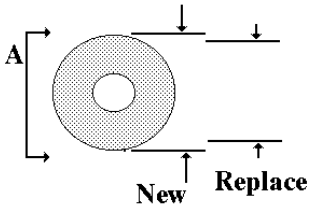
The 400 & 500 series Grayhound pavers have 6 3/4 inch (171.45mm) OD front idlers that are heat treated to a depth of 3/16 inch (4.76mm). They should be checked seasonally for wear. When the wear has decreased the OD to 6 3/16 inch (161.93mm) they should be replaced as shown in the illustration below.

The 300 series Grayhound pavers have 6 1/2 inch (165.1mm) OD front idlers that are heat treated to a depth of 3/16 inch (4.76mm). They should be checked seasonally for wear. When the wear has decreased the OD to 6 1/8 inch (155.58mm) they should be replaced as shown in the illustration below.

The idler shafts will show worn areas where it goes through the frame. These worn areas are normal and do not hurt the shaft.



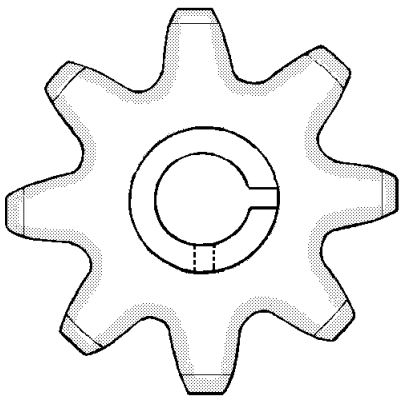




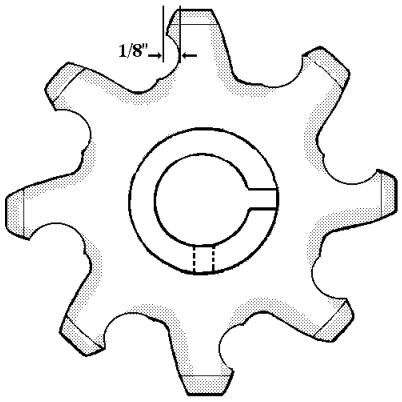
Conveyor Drive Shafts and Sprockets

The 400 and 500 series Grayhound pavers have 8-tooth conveyor drive sprockets that are heat treated (hardened) to a minimal depth of 1/8 inch (3.18mm) as the shaded areas in the illustration below show. These sprockets are reversible to provide extended life and lower operating cost.

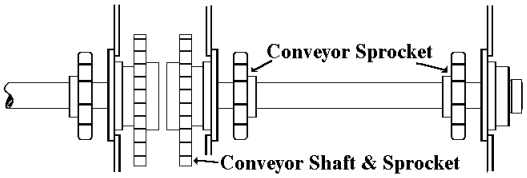
Wear occurs on one side of the sprocket in normal use as the illustration below shows. It is recommended that the amount of wear be checked periodically during the paving season. When the sprockets show approximately 1/8 inch (3.18mm) wear they should be reversed. This is done by removing the conveyor drive shaft assembly and swapping the LH assembly with the RH assembly. The conveyor sprocket bearings should be checked for wear or damage. Refer to Auger/Conveyor Bearings.

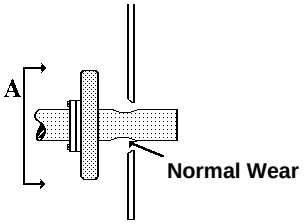


New



Reverse





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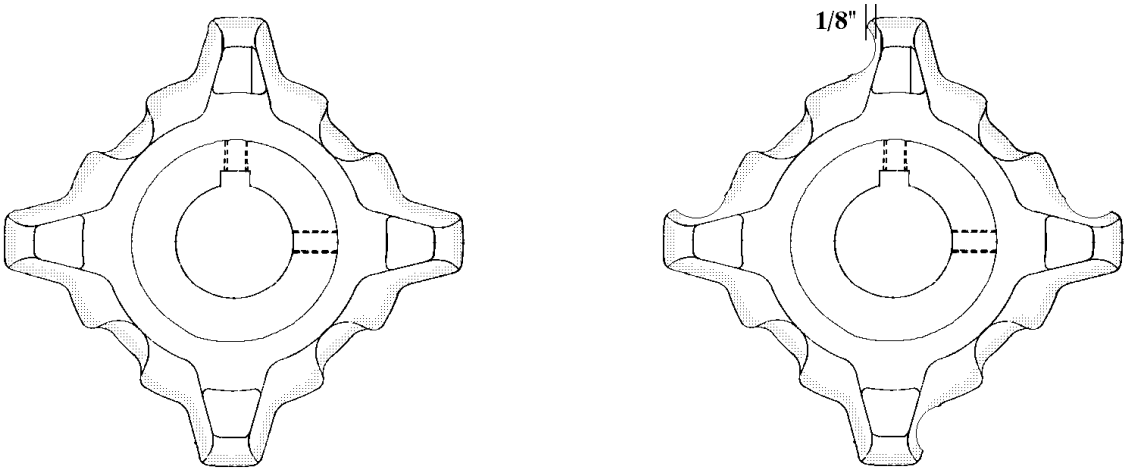
Feeder System

The 300 series Grayhound pavers have 4-tooth conveyor drive sprockets that are heat treated (hardened) to a minimal depth of 1/8 inch (3.18mm) as the shaded areas in the illustration below show. These sprockets are reversible to provide extended life and lower operating cost.

Wear occurs on one side of the sprocket in normal use as the illustration below shows. It is recommended that the amount of wear be checked periodically during the paving season. When the sprockets show approximately .125 inch (3.18mm) wear they should be reversed. This is done by removing the conveyor drive shaft assembly and swapping the LH assembly with the RH assembly. The conveyor sprocket bearings should be checked for wear or damage. Refer to Auger/Conveyor Bearings.



Conveyor Chain and Slat Bars

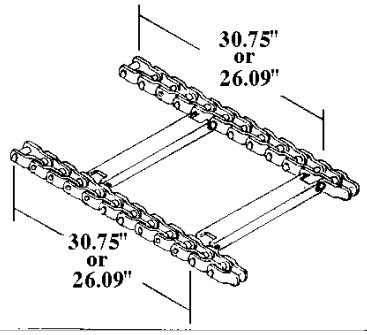
The 400 and 500 series Grayhound pavers are equipped with heavy duty 1.5 inch x 3 inch slat bars and 3.075 inch (78.105mm) pitch offset link roller chain to provide extended life and reduced operating cost. The conveyor chain can be broken at any link and half links removed as wear occurs. The slat bars and chains can be removed and flipped over to extend service life. Normally when replacement of the chains becomes necessary the slat bars can be removed, flipped and reused on the new chain.

Conveyor Chain

When pins and bushings begin to wear on the chain, the length of the chain increases. To determine when to change a chain, measure length of ten links and check outside diameter of the rollers.

(1) Make sure both strands are under equal tension.
(2) Measure 10 links of each chain.
(3) Use the longest value to evaluate the wear.

	New Chain	Half Worn	Nearly Worn	Worn Out
400 and 500 Series	30.75 Inches	31.21 Inches	31.67 Inches	31.98 Inches
	781.05mm	792.73mm	804.42mm	812.29mm
300 Series	26.09 Inches	26.48 Inches	26.87 Inches	27.13 Inches
	662.69mm	762.59mm	682.5mm	689.1mm



Measure 10 links of each chain with both chains adjusted even.

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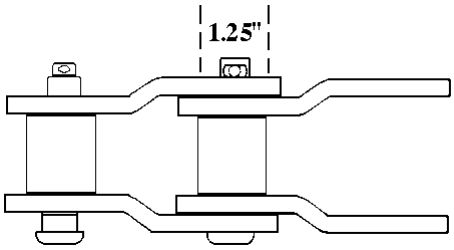
Feeder System

Roller Wear

Rollers will wear at the middle part (the “apple core” area). Worn rollers do not normally limit the chain life, but chains should be replaced when rollers show excessive wear. The figures below apply to the 400 and 500 series pavers. Measurements are to be taken at the midpoint of the roller.

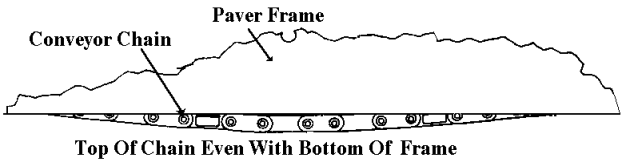
Roller OD: New Chain - 1.25 inch (31.75mm), Half Worn - 1.12 inch (28.45mm), Nearly Worn - 1.00 inch (25.4mm), Worn Out - Worn through wall thickness.

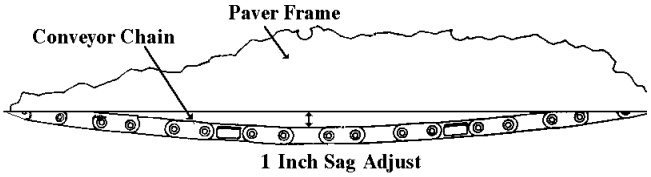
Inverting the chain may extend wear life. When replacing the chain, always replace both strands and install new sprockets.



Conveyor Chain Adjustment.

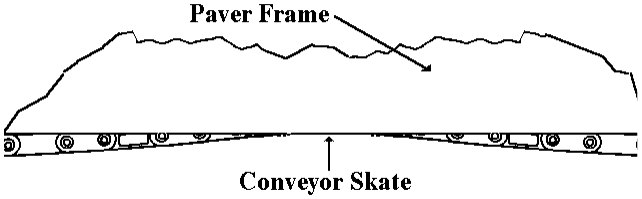
The conveyor chain should be adjusted when 1 inch (2.4mm) of sag below the bottom of the paver frame is noted. Adjust the chains so the top of the chain is even with the bottom of the frame. Over tightening the chains introduces added wear to the chain, front idlers, drive sprockets and all bearings.

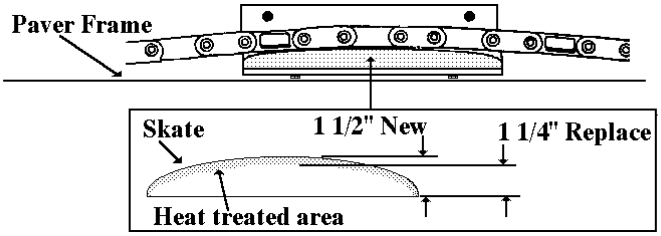




Conveyor Chain Skates

Conveyor chains skates are heat treated to a depth of 1/4 inch (6.35mm). They should be checked several times during the paving season. If wear is allowed to proceed past the heat treated area the rate of wear will be very high. Replace when worn as illustrated below.





Auger Drive Shafts and Sprockets

The auger/conveyor drive chains and bronze spacer washer are subject to stretching and wear when not properly lubricated. Since the chains and spacer is housed in a case to keep them clean, they are not exposed for regular nightly spray-down and lubrication. Therefore give them extra attention during the regular maintenance checks.

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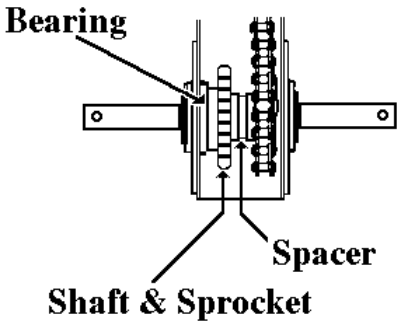
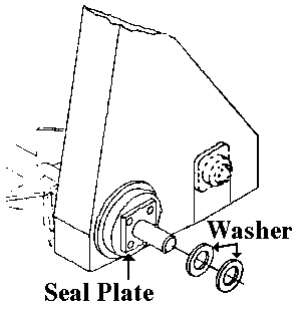
Feeder System

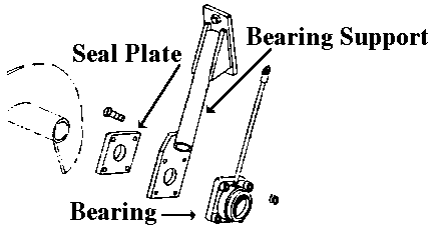
The following procedure will help avoid downtime.

Weekly (or every 40 hours): Shut engine off. Open the chain cover by removing the cap screws and pulling the cover back. Check the drive chains and bronze spacer washer for proper tension and wear. Clean the housing and lubricate the chains and spacer with fuel oil from the spray-down hose or with SAE 10 motor oil. A small amount of oil may be left in the housing for lubrication between checks even though the housing is not oil tight.

The auger seal plates and washers as illustrated below should be checked regularly as they run in the asphalt materials. As excessive wear occurs the asphalt materials work against the bearings and could cause a premature failure. Augers and bearing hangers that have been bent due to dragging or hitting obstructions will cause excessive wear to occur on the seal plates. If the augers and or the bearing hangers have been hit, they should be checked for bending or damage and repaired as necessary.



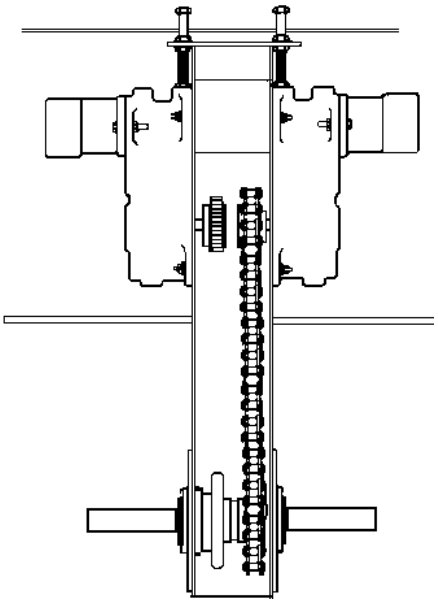


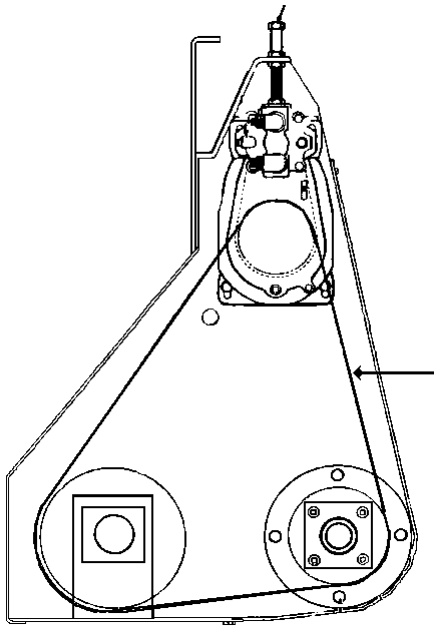


Auger /Conveyor Drive Chain

The auger/conveyor drive chain tension should be checked weekly (or every 40 hours) when performing lubrication recommendations. To adjust the chain tension:

(1) Make sure engine is OFF when checking or adjusting chains.
(2) Remove the cap screws holding the chain cover. Pull the cover back and off.
(3) Loosen the mounting nuts on either side of the speed reducer gear box.
(4) Loosen the jam nuts on the adjuster rods.
(5) Using the adjuster rods, remove the slack from the chain, but do not over tighten. At the correct tension, the chain should move slightly under thumb pressure.
(6) After both chains have been tensioned properly, tighten the jam and mounting nuts. Replace the cover.





When properly adjusted, the chain should move slightly under thumb pressure

The 400 and 500 series Grayhound pavers have #140, the 300 series Grayhound pavers have #120 chain to provide extended life and reduced operational cost.

Measured over 10 Pitches

400 and 500 Series: New - 17.5 inch, Worn - 18.025 inch

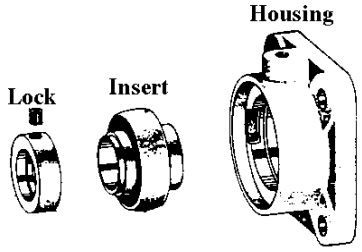
300 Series: New - 15 inch, Worn - 15.45 inch

Auger/Conveyor Bearings

Grayhound pavers have all conveyor bearings placed on the outside of the frame or inside protected areas so bearing life and operational cost is reduced. The only bearings that are in contact with the asphalt are the outboard auger bearings.

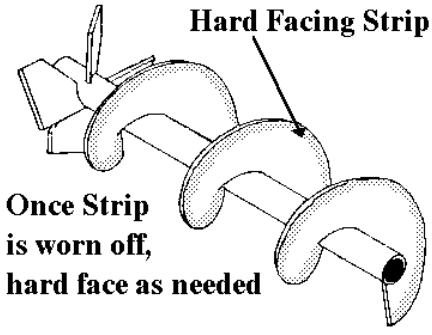
Proper lubrication and daily cleaning is one of the most important factors in bearing life. Follow the recommended lubrication charts as per machine. Be sure to clean all grease zerks and grease gun tip before greasing. During your daily cleaning and lubrication procedures, inspect the seal area for signs of a blown seal. Over-greasing or greasing when the bearings are cold is the biggest reason for blown seals.

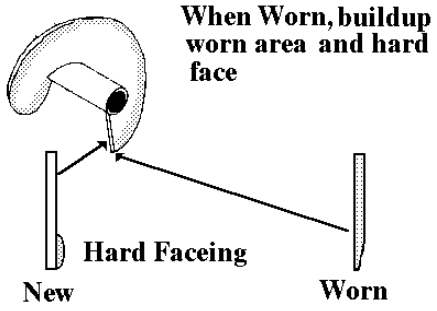
During seasonal repairs, close inspection of all bearings will normally show any that have questionable seals or wear. Replacement of the bearing insert is normally the only repair required as the bearing housing can be used again. This saves on repair costs.



Augers (Standard)

The 300 series Grayhound is equipped with standard augers with hard facing stripes. Optional High Alloy lined augers are available when severe operational conditions exist. The amount of wear occurring on the auger should be noted daily. When the hard facing stripe has been worn off the auger can be removed and refaced using a welder and a hard facing rod.
High Alloy liners and shaft shields can be installed easily on standard augers.





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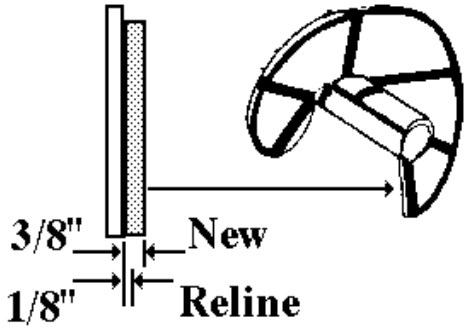
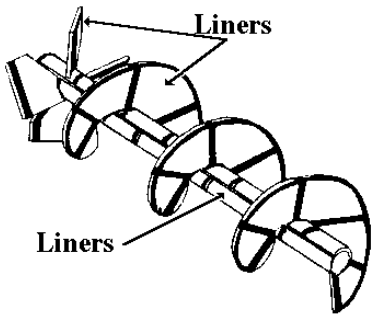
Drive System
CR561, CR461, CR361

Augers (Lined)

The 400 and 500 series Grayhound pavers are equipped with 3/8 inch (9.53mm) thick heavy duty lined augers for extended life and reduced operational cost. The augers should be inspected during daily cleanup to note wear and any impact damage. Once the liners have worn to 1/8 inch (3.18mm) thick the auger can be removed and relined with new liners and shaft shields. The liners are welded on using 7018 (low hydrogen) welding rod.





There are various reasons to measure wear on crawler paver undercarriage parts:
- functional safety for operators
- ensuring trouble free operation
- cost per hour calculation of undercarriage wear parts for costing and comparison
- pre-determination of expected life of undercarriage parts, rebuild and replacement points.

Track wear measurement should be planned in advance and carried out regularly as follows:
- after every approx. 500 hours of operation
- when operators are changed
- to ascertain if replacement of undercarriage parts is necessary

Measurements to be taken:
- Track link height
- Track pad height
- Bushing outside diameter
- Track pitch
- Track and top roller tread diameter
- Idler tread diameter

Measurements can be compared with new/replace dimensions as per tables enclosed.

While taking wear measurements, attention must be paid to abnormal wear factors such as:
- excessive spalling of wear and guiding surfaces
- abnormal deformation of wear surfaces indicating possible “soft” spots on wear surfaces
- cracks in hardened contact surfaces or in areas under bending stress
- one sided wear on lateral guiding surfaces (e.g. track and top roller flange, idler flange, sprocket sides, track link inside and outer gauge)
- unusual wear of sprocket teeth
- bent track shoes
- tightness of track shoe hardware by random checking using operators torque wrench
- bolt heads
- leaking rollers
- vertical and lateral idler play
- track pitch
- lateral play of track link assembly and wear of master pin or master lock if track link assembly has been opened for some reason

Always consider both measurement and general condition of undercarriage in your decision making. Use the following tables and record the measurements for later comparison of wear.

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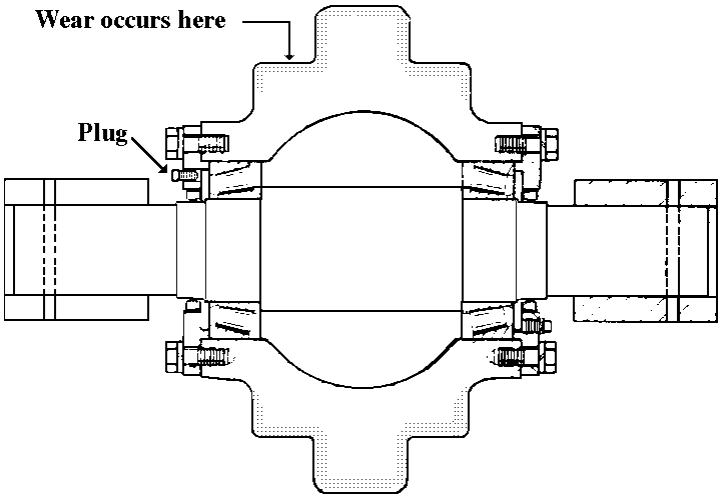
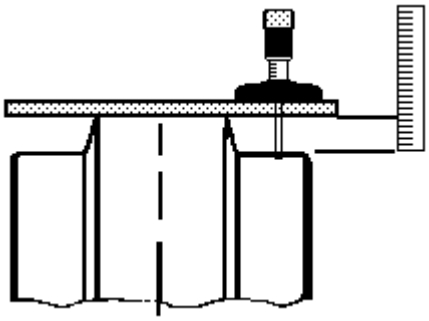
Drive System
CR561, CR461, CR361

Front Track Idlers

Cedarapids track pavers are equipped with heat treated front track idlers for extended life and reduced operational cost. Normal maintenance is no more than visual inspection for seal leakage and then seasonal checks for wear. Follow the chart and illustrations below to determine wear. To extend idler life the tracks should be tensioned properly. Loose or overly tight tracks introduces undue wear.

Paver Model	Part Number	New	Worn
CR361	9704-057-89	.715 inch/18.16mm	1.09 inch/27.69mm
CR361	45610-002-12	.71 inch/18.03mm	.93 inch/23.62mm
CR461	9704-056-70	.715 inch/18.16mm	1.09 inch/27.69mm
CR461	45610-002-13	.72 inch/18.2mm	1.06 inch/26.9mm
CR561	9704-056-93	1.5 inch/38.1mm	1.875 inch/47.63mm
CR561	45610-002-14	.85 inch/21.59mm	1.15 inch/29.21mm





Idler

Use a depth gauge or ruler measure to measure distance between center flange and tread.

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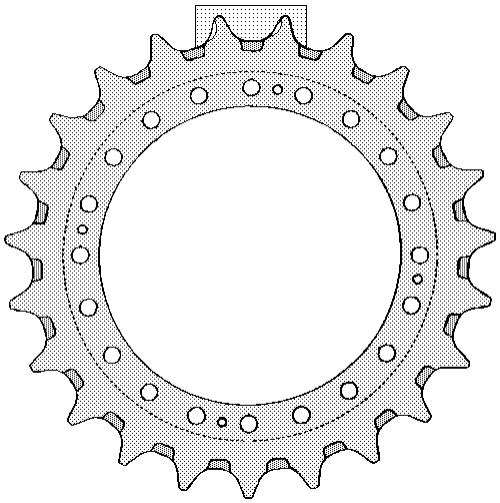
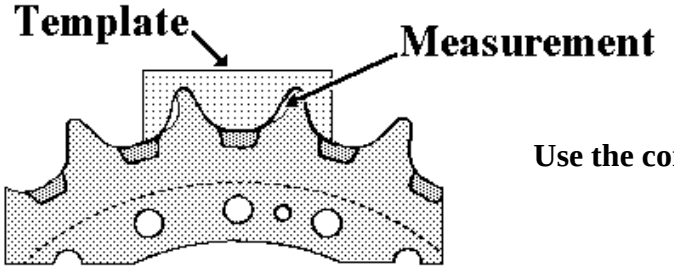
Drive System
CR561, CR461, CR361

Track Drive Sprockets

Cedarapids Grayhound track pavers are equipped with one piece bolt-on drive sprockets that are heat treated. Normal wear occurs on one side of the tooth, traditionally on the side that pulls the track forward. Normally a set of sprockets can be reversed or flipped before any track rail repair (turning pins and bushings) is required.



The CR561 track drive sprocket is heat treated to a depth of .1875 inch (4.76mm) and the CR461 and CR361 sprockets are heat treated to a depth of .125 inch (3.18mm). The sprockets should be reversed when the wear is at this point, as the rate of wear increases very fast after the heat treated area has been worn through. Increased wear also occurs in the track rail bushings, thereby shorteing their life. Track tension also plays an important part in extending the life of a track system. Tracks that are too loose or tight increase the amount of wear occurring. To achieve maximum possible life, the track tension should be checked and adjusted as necessary.



Use the correct template to measure wear as illustrated

Checking Wear

Wear is checked as illustrated and by using the Wear Check Templates provided.

1. Remove the correct template for the model of paver being checked.
2. Cut the template out using care to cut on the **outside** of the line.
3. Place the template over the sprocket and measure the wear.
4. The table below shows the allowable wear before reversing the sprockets.

Measurments: CR561: .1875 inch/4.76mm; **CR461:** .125 inch/3.18mm; **CR361:** .125 inch/3.18 mm

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Drive System
CR561, CR461, CR361

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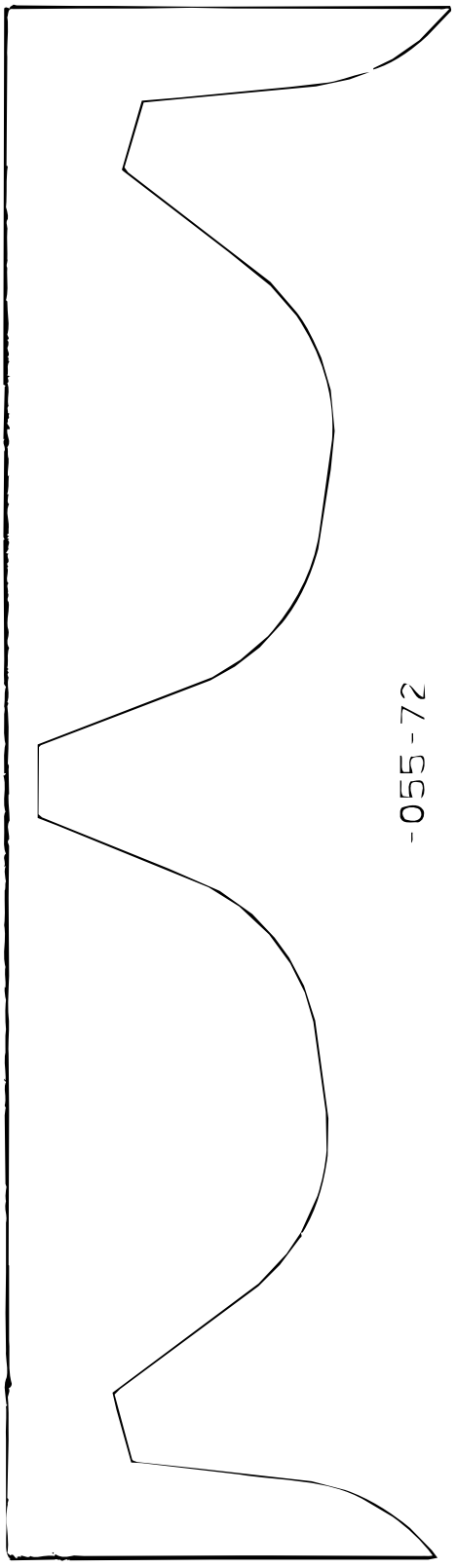
Drive System
CR561, CR461, CR361

CR561 Track Drive Sprocket Template



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Drive System
CR561, CR461, CR361

Cedarapids
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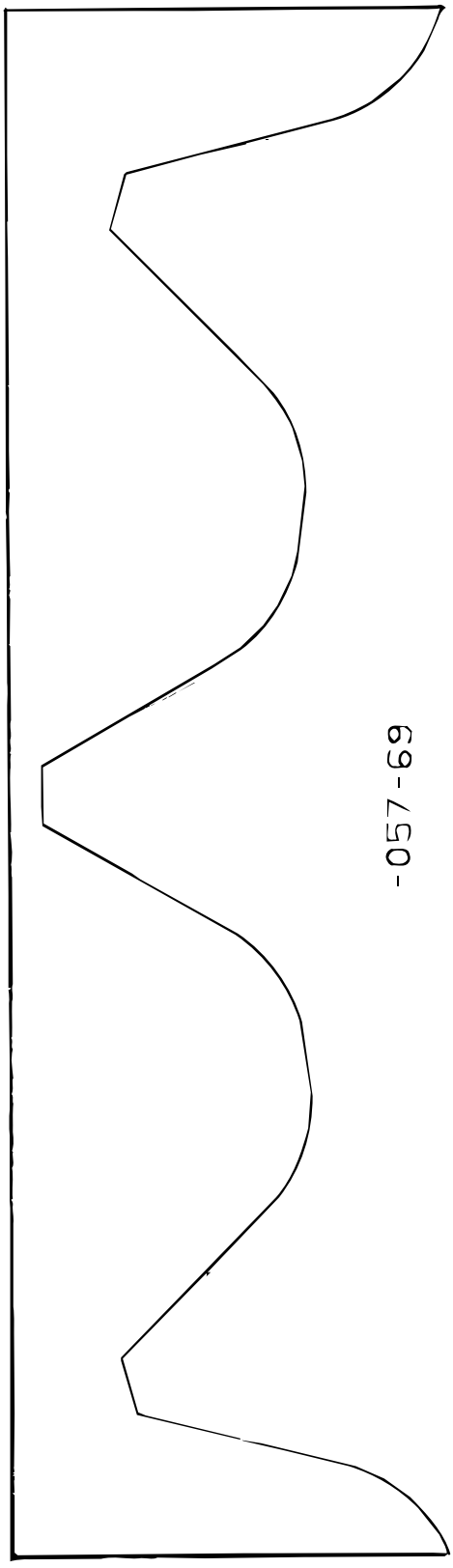
Drive System
CR561, CR461, CR361

CR461 Track Drive Sprocket Template



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Drive System
CR561, CR461, CR361

Cedarapids
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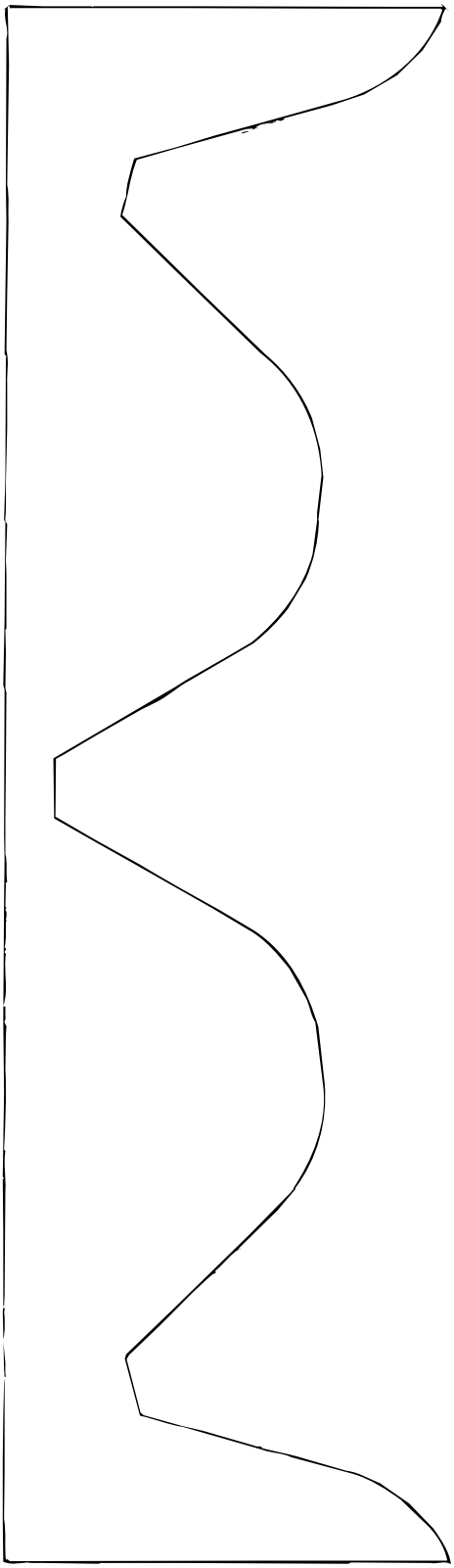
Drive System
CR561, CR461, CR361

CR361 Track Drive Sprocket Template



Cedarapids
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Drive System
CR561, CR461, CR361

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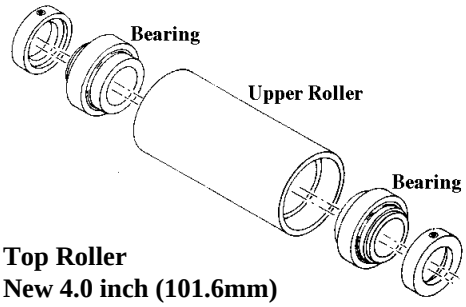
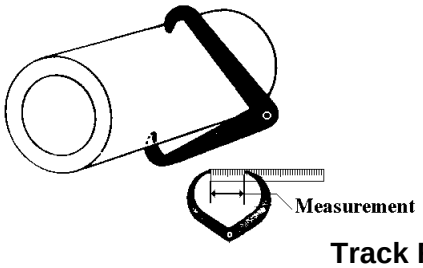
Drive System
CR561, CR461, CR361

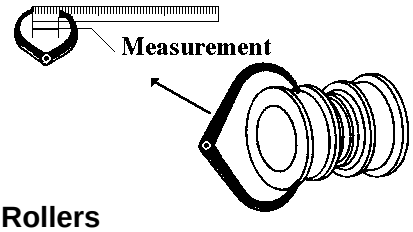
Track Rollers

The CR561 Grayhound paver uses B4 class track rollers and the CR461 and CR361 Grayhound pavers use B3 class track rollers for extended life and reduced operational cost. Normal maintenance requires visual inspection for seal leakage, and seasonal should include measurement of wear.



Top Roller
New 4.0 inch (101.6mm)
Worn 3.62 inch (91.9mm)

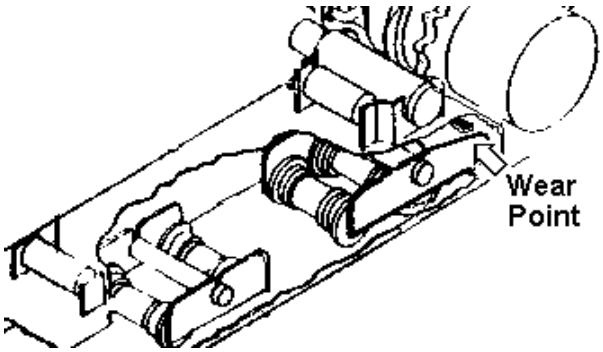


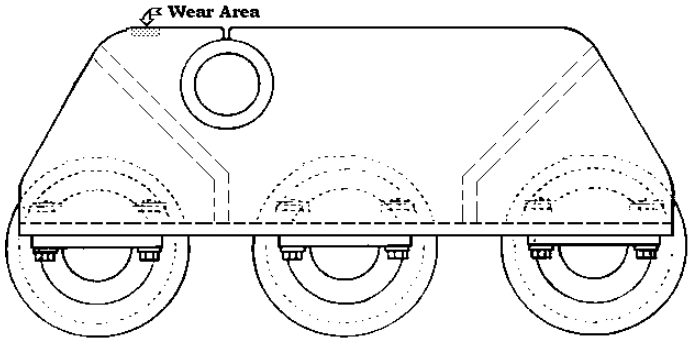


Track Rollers
Use outside calipers to establish most worn tread diameter and read off dimension from ruler as illustrated

Track Roller Wear Guide
CR561 Track Rollers: New - 6.10 inch/155.0 mm; Worn - 5.51 inch/140.0 mm
CR461 and CR361 Track Rollers: 5.98 inch/152.0 mm; Worn - 5.39 inch/136.0 mm

Three Roller Bogie CR361 and CR461





The CR361 and CR461 pavers are equipped with a 3-roller rear bogie assembly. Through normal usage wear occurs in the top rear edge of the bogie frame. As wear occurs, the machine weight is shifted further towards the rear of the machine. This causes a rougher ride. The areas of wear can be built up using a welder and 7018 Low Hydrogen rod.

Track Chain

The CR561 is equipped with B4 loader type track rails and the CR461 and CR361 are equipped with B2 loader type track rails to provide extended life and reduced cost in the most severe conditions. The loader type track rails are not effected by oil, fuel or asphalt which are commonly encountered in normal operation conditions. The only maintenance required is periodic adjustment of the track tension.

The normal procedures for track repair (turning pins and bushings) or replacement are:

(1) The first thing to wear is the drive sprockets. Keep track of the wear and reverse the sprockets.

(2) After the reverse side of the drive sprockets are worn out, check track rails (length over 4 links, bushing OD) for wear. At this point the track rails can be removed and have the pins and bushings turned. This allows the rails to be reinstalled along with new drive sprockets.

There are many local equipment companies in most areas that can easily turn pins and bushings. By having the pins and bushings turned you will be able to get the maximum possible life, thereby reducing operational costs.

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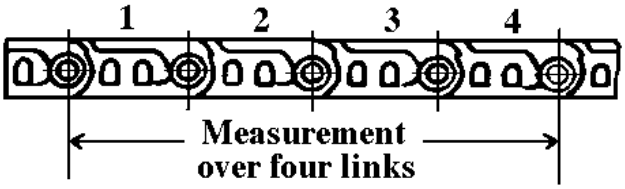
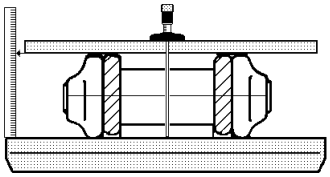
Drive System
CR561, CR461, CR361

Follow the illustrations and tables below to check wear.

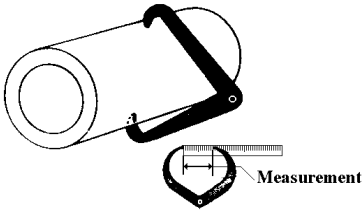
Pin and Bushing Internal Wear
Tighten tracks, use tape to measure over four links



Track Link
Use depth gauge and meausre the height of link.



Bushing Outside Wear
Use outside calipers to measure maximum wear points.



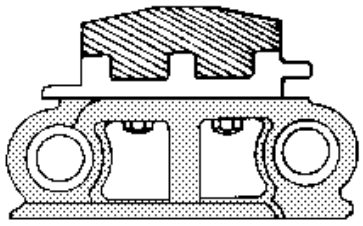
		Link Height	Bushing OD	Length (4 Links)
CR361 and CR461	**NEW**	3.024 inch/77.0 mm	1.69 inch/42.85 mm	24.54 inches/623.3 mm
	WORN	2.75 inch/70.0 mm	1.42 inch/36.0 mm	25.02 onches/635.5 mm
CR561	**NEW**	3.72 inch/94.5 mm	1.99 inch/50.6 mm	26.98 inches/685.3 mm
	WORN	3.39 inch/86.0 mm	1.69 inch/43.0 mm	27.46 inches/697.5 mm

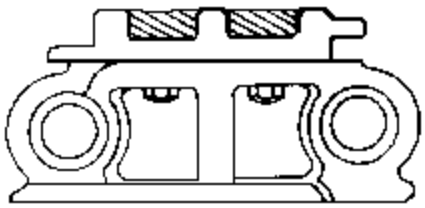
Track Pads

The CR561 and CR461 are equipped with 18-inch wide polyurethane track pads and the CR361 is equipped with 14-inch wide polyurethane track pads to provide extended wear life and reduced operational cost.

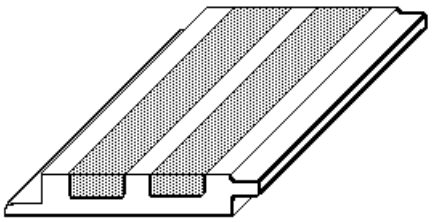
The rate at which a track pad wears is highly dependent on operational conditions and the manner in which the paver is operated. Existing grade conditions (large sharp stones, water drains, manhole covers. etc.) and sharp turns introduce cutting or “chunking” in the track pads. This cutting or “chunking” normally does not affect the performance of the pad.

Track pads are considered worn when the top of the grosser bars are exposed across the full width of all the pads. A given pad may have part of the grosser bars exposed due to cutting or “chunking” , but as long as the adjacent pads do not have the grossers fully exposed it does not affect the performance of the track as a whole.





NEW



Worn when grossers are fully exposed

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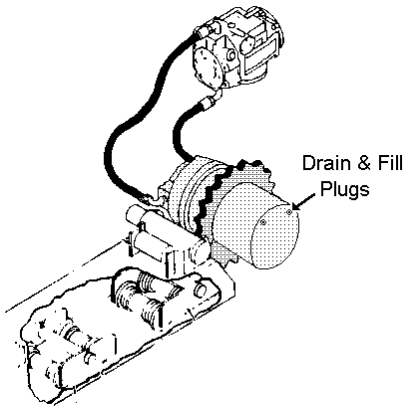
Drive System
CR551, CR451, CR351

Final Drive

The Grayhound traction drive system is Direct Hydraulic Drive which eliminates about 70% of the moving components traditionally found in pavers. This relates to a direct reduction in operational costs and extended life. The final drive units are very low maintenance. The only requirements are inspection for any oil leakage and seasonal replacement of the gear oil.

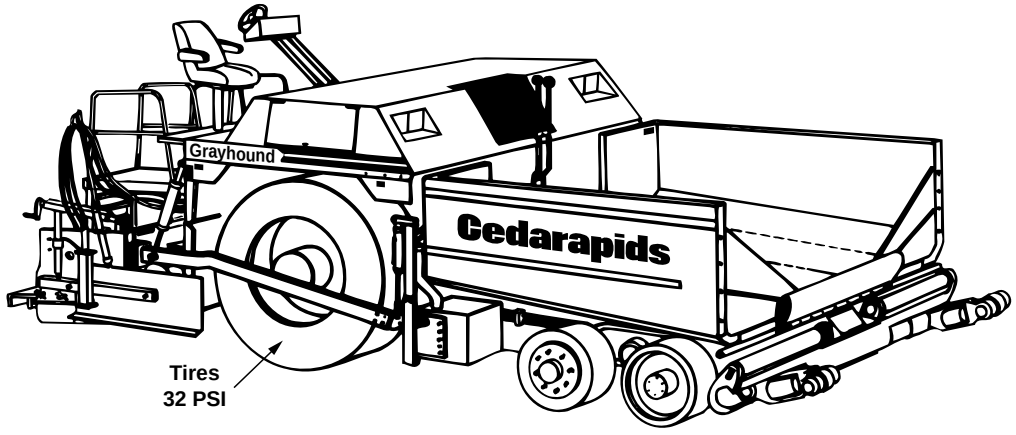


Final Drive
Drain and Flush with solvent, refill with 90W gear oil.

Rear Drive Tires

One of the unique features of the Grayhound rubber tired pavers are the large, high flotation drive tires. The drive tires in combination with the Frame Raise capability dramatically increase traction effort, thereby extending life and lowering operational costs.

The tire pressure should be checked and maintained at 32 PSI. Both tires should be set to the same pressure for best performance. During normal inspection of the paver, check tires for wear, cuts or any bubbles or knots.



Normal operations do not require Hydroflation of the drive tires to maintain traction. If severe operational conditions exist the tires can be hydroflated. Use the table below for determining the correct amount of calcium chloride and water.

		CR351	CR451	CR551
Tire Size		18.4 x 26 inch	23.1 x 26 inch	24.5 x 32 inch
Weight in pounds	**Calcium**	246	386	445
	Water	586	907	1060
US Gallons		70.3	108.7	127.02
Total Weight (pounds)		832	1287	1505

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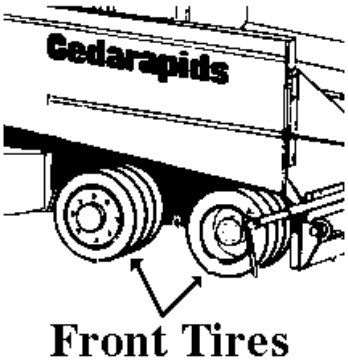
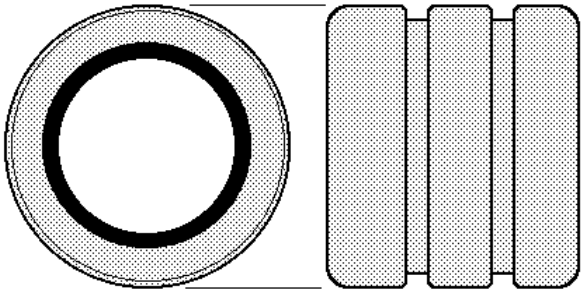
Drive System
CR551, CR451, CR351

Front Bogie

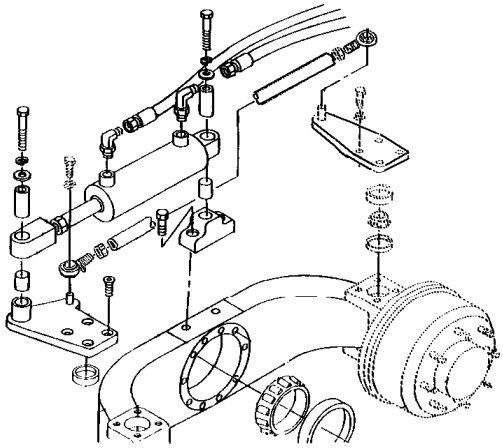
The front tires used on Grayhound rubber tired pavers normally only require visual inspection to determine damage or wear. Method of operation and grade conditions along with steering linkage adjustment are some of the factors that determine rate of wear. Normally the front tires are considered worn if they are worn smooth and show no center grooves.





Steering Linkage

The steering linkage, rod ends, bushings, bearings and cylinders should be checked seasonally for wear. The wheel and pivot bearings should be repacked during this time. Wheel alignment and amount of tow-in should be adjusted as necessary.

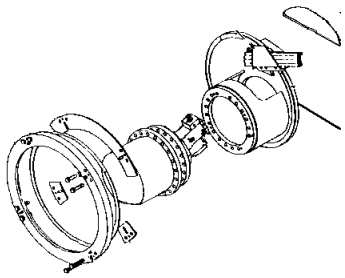


Check steering linkage rod ends, bushings, bearings and steering cylinder.

Check and adjust steering wheel alignment and tow-in.

Final Drive and Frame Raise

The Grayhound rubber pavers traction drive system is Direct Hydraulic Drive which eliminates about 70% of the moving components traditionally found in pavers. This relates to a direct reduction in operational costs and extended life. The final drive units are very low maintenance. The only requirements are inspection for any oil leakage and seasonal replacement of the gear oil. The frame raise on the CR351 and CR451 should also be greased seasonally.



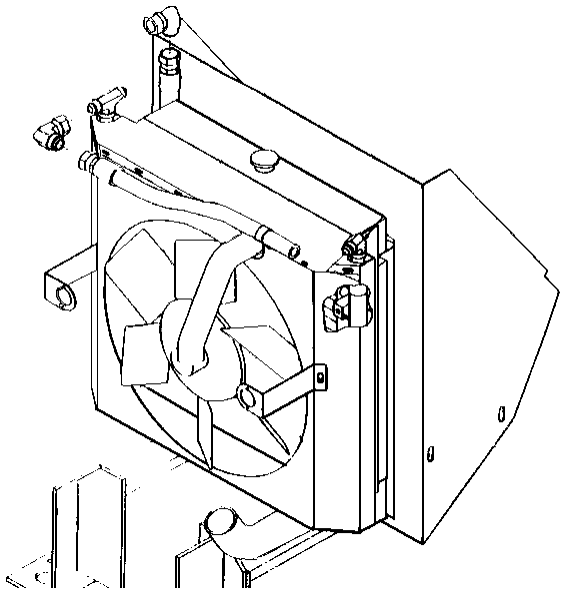
Clean the Frame Raise system of all built-up asphalt.

Grease CR351 and CR451 slide components.

Drain and flush Final Drive and refill with 90 W gear oil.

Radiator and Oil Cooler

The radiator and oil cooler should be checked daily for dirt and other buildup that would restrict the air flow. The paving conditions will determine how often the radiator and oil cooler require cleaning. If severe conditions exist or there are a lot of air-born contaminates the radiator and oil cooler will require more attention. Any leaks occurring from any engine compartment component, hose or tube will find its way into the radiator and oil cooler. When cleaning, check between the radiator and oil cooler for buildup.

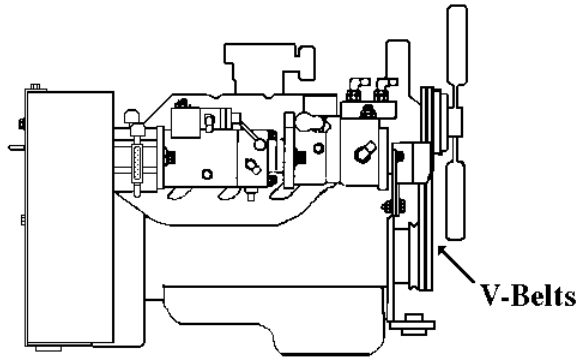


Radiator and Oil Cooler Should be Checked Daily

Check not only the exposed areas but the area between the radiator and oil cooler

Engine Fan Belts

The engine fan and alternator belts should be checked periodically for correct tension and weathered or worn belts. Belts that are not adjusted properly allow slippage which shortens the life of the belt and can effect the cooling and charging systems.



Engine fan and alternator belts should be checked periodically for proper adjustment and wear.

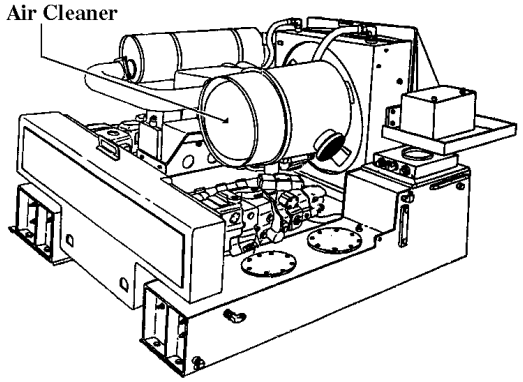
Air Cleaner

The engine air cleaner is equipped with an indicator that trips red when it needs service. The indicator should be checked daily to ensure proper servicing. Running the paver with an air cleaner that needs replacement does not allow the engine to get the proper amount of air to burn the fuel properly, thereby reducing engine horsepower output.

When servicing an air cleaner take precautions not to allow any of the dirt or contamination that would happen to fall off the old element to remain in the filter housing or pass into the air inlet of the engine. Dirt and contamination are one of the biggest reasons for engine wear.

Improper cleaning of old air cleaner elements can damage the element and allow dirt and contamination to pass directly into an engine.

- **Do not beat or bang an element against something in an attempt to shake the dirt out. This will damage the element.**
- **Do not use high pressure air in an attempt to blow the dirt out. This will damage the element.**



Check Air Cleaner Indicator Daily

Do Not Beat or Bang Element

Do Not Use High Pressure Air on Element

Engine Oil and Filters

The engine oil level should be checked daily. Follow engine manufacturer's recommendations on oil change intervals and SAE grade of oil. Refer to the engine manuals provided with the paver.

Engine Coolant

The coolant level should be checked daily. The radiator should never be filled totally to the top. There has to be some room for fluid expansion. The correct cold level is normally even with the baffle, which is located just below the fill port. The cooling system should have a mixture of antifreeze and water for proper protection in freezing weather. The pavers have a 50/50 mixture of antifreeze and water when shipped new. Follow engine manufacturer's recommendations for various weather conditions.

Pump Drive Belts

The Grayhound pavers use V-belts or Poly Chains to drive the hydraulic pumps. This greatly reduces the costs and maintenance traditionally related to gear box type drive systems. Seasonal maintenance requires only a fraction of the time and expense compared to repair of a gear box type. If a belt failure does occur, new V-belts or Poly chains can be installed quickly.

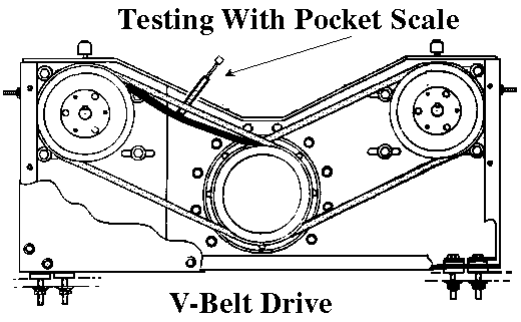
V-Belts

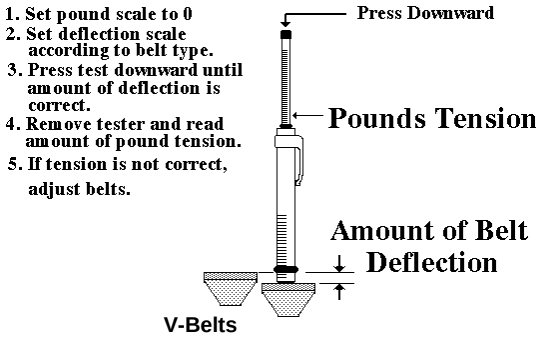
When installing new V-belts, adjust to NEW setting. Adjustments after that will be set to the NORM setting. New V-belts should be checked and adjusted according to the chart after eight hours of operation. Do not adjust belts until they test below NORM setting. Adjust up to, but not exceeding, the NORM setting. All V-belt adjustments are made at 3/8 inch belt deflection.

Common-Sense Rules of Belt Tensioning

- The ideal tension is the lowest tension at which the belt will not slip under peak load conditions
- Check the belt tension frequently during the first 24 to 48 hours of run-in operation.
- Do not over-tension belts. This shortens belt and bearing life.
- Keep belts free of foreign material which may cause slippage.
- Inspect drive periodically. Retention the belts before they start slipping.
- Maintain sheave alignment with a strong straight-edge tool while tensioning belts.

All V-belts are set at 3/8 inch deflection	300 Series		400 Series		500 Series	
	Normal	New	Normal	New	Normal	New
Pocket Scale Tester	17 lbs.	20 lbs.	17 lbs.	20 lbs.	17 lbs.	20 lbs.
Pull-Scale Tester	34 lbs.	40 lbs.	50 lbs.	60 lbs.	68 lbs.	80 lbs.





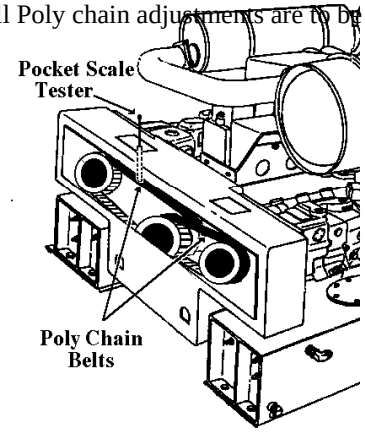
Poly Chain Belts

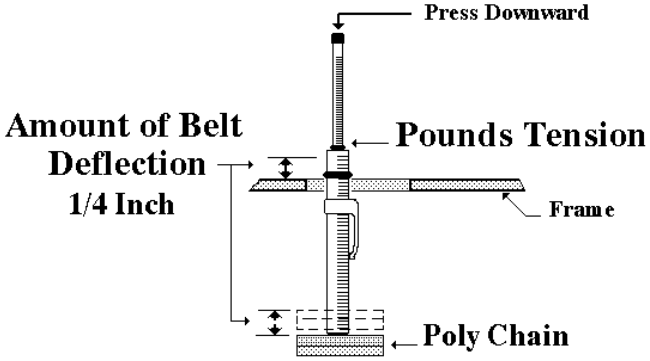
Tension values for Poly chain belts are temperature-sensitive. When installing belts, either new or used, adjust the belts for an **8- to 10- lb.** setting at **1/4 inch deflection** when belts are **cold.** After the machine is at normal operating temperature, they should be checked and readjusted if necessary, using the values listed in the table.

Do not adjust the belts until they test below the MINIMUM setting when the machine is at NORMAL operating temperature. The values in the table are for normal operating temperatures. Adjusting cold belts to these values will result in rapid belt failure and possibly damage the pump bearings.

Adjust up to (but not exceeding) the MAX. setting when the machine is at normal operating temperature.

All Poly chain adjustments are to be at 1/4 inch deflection.





Check at 1/4 inch Deflection

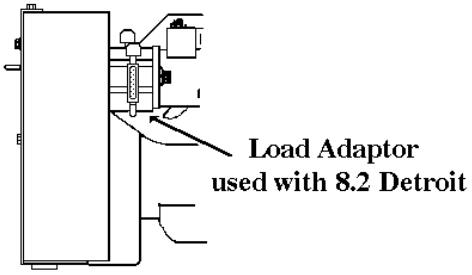
400 and 500 Series: Minimum (at Operating Temp) - 18 lbs.; Maximum (at Operating Temp) - 20 lbs.

Engine Tune-up

Follow the engine manufacturer's recommendations for adjustment of valves, calibration of injection system, etc. to keep the engine operating properly.

Load Adapters (500 series w/ 8.2 Detroit)

500 series Grayhound pavers equipped with the 8.2 Detroit engine have load adapters between the hydraulic pumps and the V-belt drive. The oil level should be checked daily and changed seasonally.



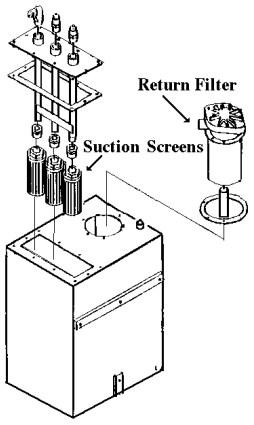
Check oil level Daily.

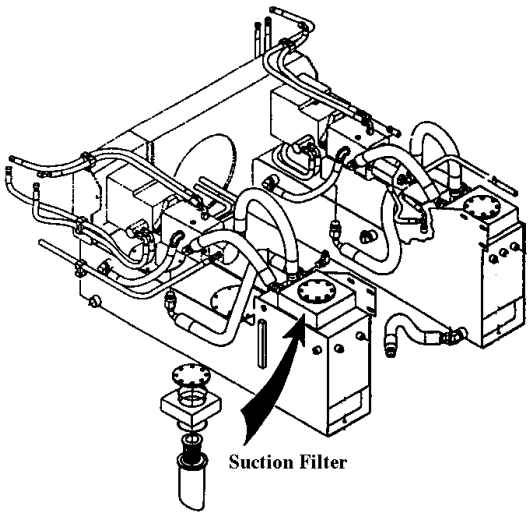
Change Seasonally.

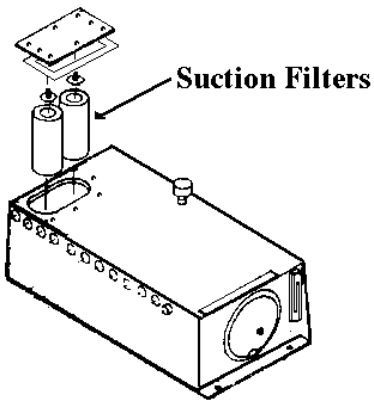
The hydraulic fluid level should be checked daily and the correct replacement fluids added if necessary. In general, for seasonal maintenance, inspect all hydraulic lines and tubes for leakage or areas that show wear on the tube or hose.

Hydraulic Tank(s)

The hydraulic fluid should be drained and replaced with the correct fluid seasonally. Check all hose and tube connections, to ensure tight connection. There are suction screens, suction filters and return filters on various models that should be cleaned or replaced.







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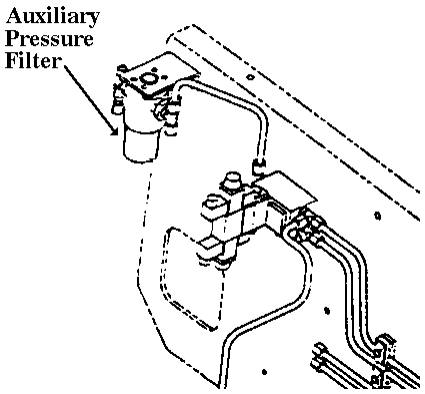
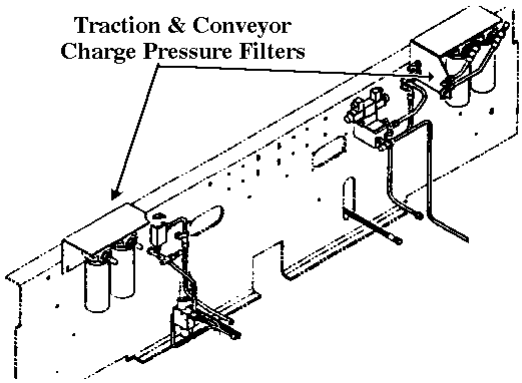
Hydraulic System

Hydraulic Filters

Various models of Grayhound pavers have high pressure auxiliary filters and charge pressure filters for the traction and conveyor systems. These filters should be checked periodically and changed according to the lubrication charts provided with each paver.





Traction Pump and Motor

During seasonal maintenance the traction system should be checked to ensure proper operation. It is a good idea to check and record the charge, POR, forward relief and reverse relief pressures. This information can become useful in tracking system wear or problems that might occur.

Front Wheel Assist

During seasonal maintenance the front wheel assist system on rubber tired pavers if equipped should be checked to ensure proper operation. Visual inspection of the front wheel drive motors for external leakage and inspection of all steering leakage is recommended.

Brake System

During seasonal maintenance the brake system should be checked to ensure proper operation. Refer to Operation and Maintenance Manual for procedures on how to engage the brakes for testing against the traction system.

Conveyor Pump and Motor

During seasonal maintenance the conveyor systems should be checked to ensure proper operation. It is a good idea to check and record the charge and forward relief pressures. This information can become useful in tracking system wear or problems that might occur.

Auxiliary System

Screed Lift and Screed Assist

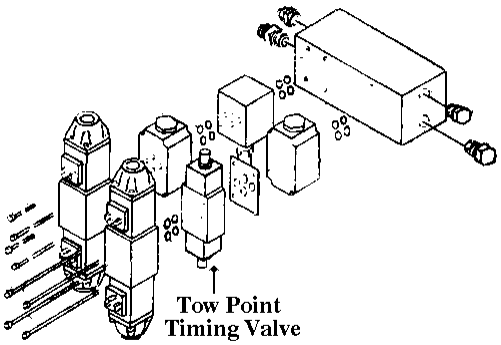
During seasonal maintenance the screed lift and screed assist systems should be checked to ensure proper operation. Clean off any asphalt that has built up over the season. The screed assist accumulator should be checked for the correct 175 PSI nitrogen precharge.

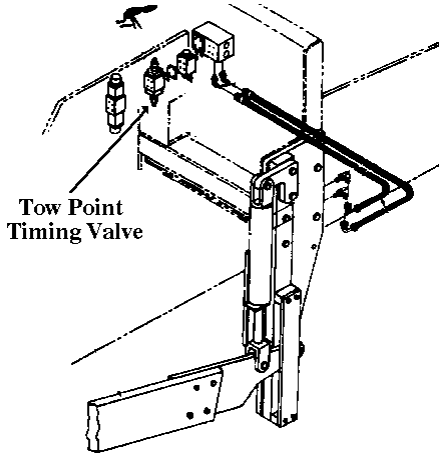
Hopper

During seasonal maintenance the hopper wing lift system should be checked to ensure proper operation. Clean off any asphalt that has built up over the season. Visually inspect the hopper wing hinge and box for signs of wear or cracking.

Tow Points

During seasonal maintenance the tow point system should be checked to ensure proper operation. Clean off any asphalt that has built up over the season. The tow point cylinder timing should be checked and adjusted if necessary. The tow point cylinders should fully extend in 18 seconds and fully retract in 18 seconds.





Steering (Rubber Tired)

During seasonal maintenance the steering system should be checked to ensure proper operation. Clean off any asphalt that has built up over the season. Ensure wheels have not had a history of getting out of alignment. If so, check steering cylinders for internal leakage.

Frame Raise

During seasonal maintenance the frame raise system should be checked to ensure proper operation. Clean off any asphalt that has built up over the season.

Screed Extend/Retract

During seasonal maintenance the screed extend/retract system should be checked to ensure proper operation. Clean off any asphalt that has built up over the season.

Match Height

During seasonal maintenance the screed match height system should be checked to ensure proper operation. Clean off any asphalt that has built up over the season.

Crown

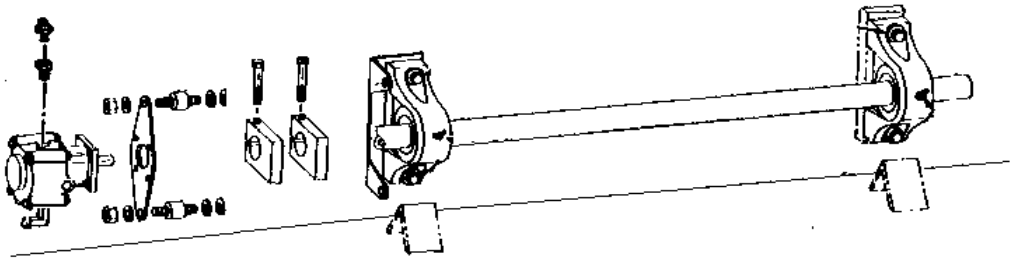
During seasonal maintenance the screed crown system should be checked to ensure proper operation. Clean off any asphalt that has built up over the season. Pay special attention to the V area in the center of the main screed. This is an area where material tends to collect and not be cleaned out during daily clean up.

Screed Slope

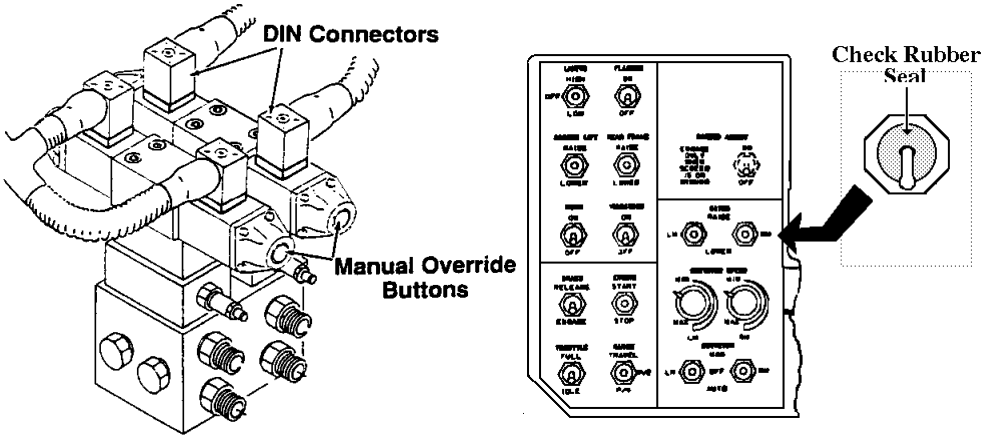
During seasonal maintenance the screed extension or strike-off slope system should be checked to ensure proper operation. Clean off any asphalt that has built up over the season.

Vibrator System

During seasonal maintenance the vibrator system should be checked to ensure proper operation. Clean off any asphalt that has built up over the season. Inspect all bearings and drive shafts for wear. The vibrator system has two sets of weights on each shaft. These sets of weights should all be synchronized (point in the same direction) with each other.



In general seasonal maintenance on the electrical system would involve inspection of all cables and harness for damage and or open or bare wires. Inspect all toggle switches of signs of weathering or cracking the rubber seal . All solenoid valves that have Din connectors should have the Din connector removed and the connections cleaned of any corrosion or build up. All other cable connections should be inspected and cleaned. Inspect the batteries to ensure they have the correct amount of fluid and are fully charged.



Check all electrical functions to ensure proper operation.

Automatic Grade and Slope

The grade control sensor and harnesses should be checked for proper operation. This includes checking and setting the amount of Dead Band on the sensor. Refer to the Operation and Maintenance Manual provided with the paver for procedures on adjusting grade sensor dead band.

The slope control system should be checked for proper operation. This includes checking and setting the amount of Dead Band. Refer to the Operation and Maintenance Manual provided with the paver for procedures on adjusting slope control dead band. There is a 9 volt battery located inside the hand held slope set unit. This battery should be replaced during seasonal maintenance.

All ski hardware and grade mounting hard wear should be checked for wear or damage.

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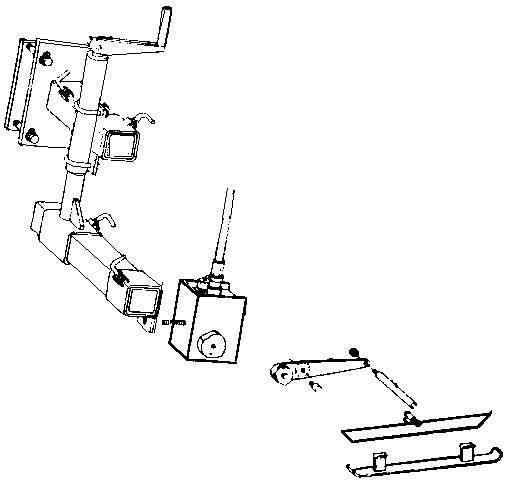
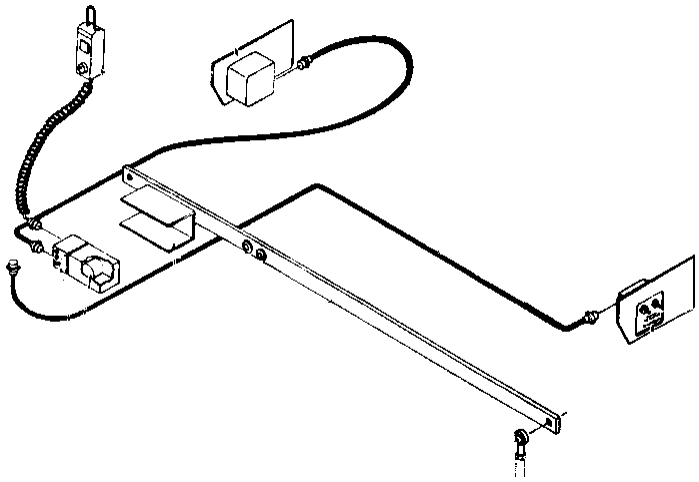
Tractor



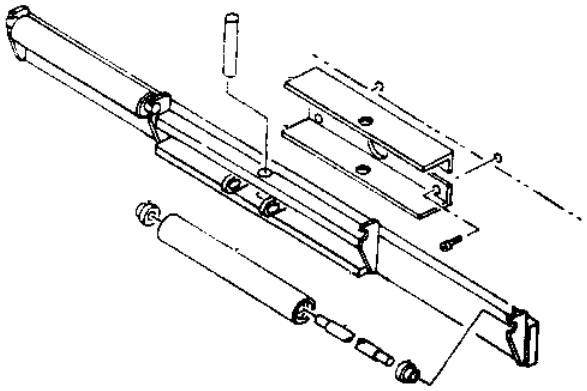


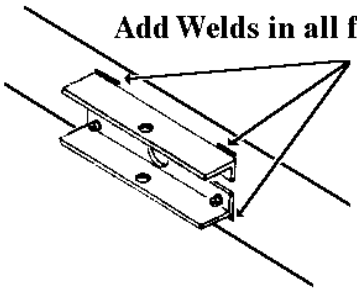
Check sensor bead band
Check cables for damage
Check all mounting hardware

Push Rollers and Truck Hitch

Standard equipment for the Cedarapids Grayhound series pavers is the oscillating Push-Beam. Optional equipment is the Truck Hitch. These can be prone to damage due to the type of operation they have to perform. The push-beam or truck hitch should be periodically inspected for damage and/or asphalt buildup that would restrict operation. Seasonal close inspection of the bearings is recommended.

When a paver is shipped from the factory the push-beam or the truck hitch is bolted to the front frame of the paver. This provides for easy changing from one to the other to meet customer configuration needs. When a paver is sold with the desired configuration, it is recommended to place welds in all four corners of the mount to provide the desired support.





Tow Arm Buffer Plates

The 400 and 500 series Grayhound pavers have adjustable tow arm buffer plates to keep the screed in alignment with the tractor when paving through corners or offset widths. They should be adjusted so there is a 3/4 inch gap between the tow arm and the buffer plate when the screed is aligned behind the tractor.

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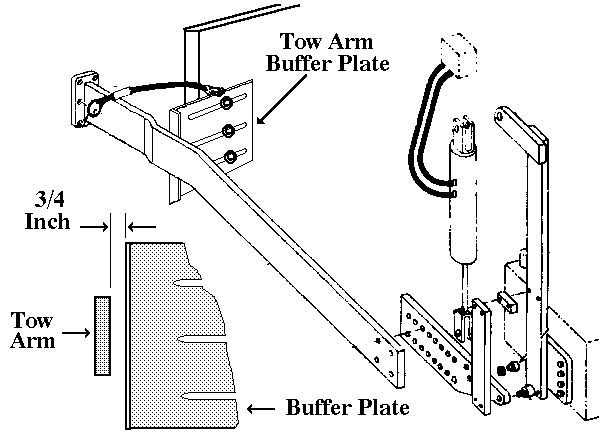
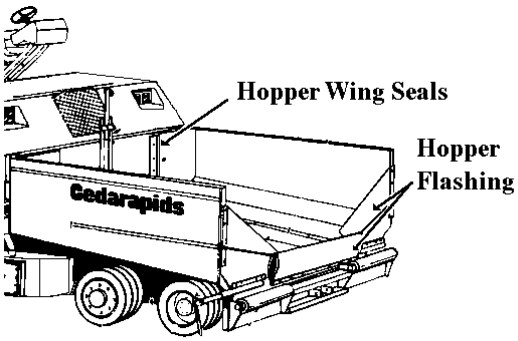
Screed



Tow Arm Buffer Plates Adjusted to 3/4 inch Gap

Hopper Flashing and Hopper Wing Seals

The flashing on the front of the hoppers is extremely prone to damage due to truck operation and configuration. The flashing should be checked regularly and repaired as necessary to prevent spillage. The hopper wing seals should be checked and adjusted to prevent leakage of material when the hoppers are raised.



Check hopper flashing and hopper wing seals and replace as necessary to prevent material spillage.

Screed Bottoms

Stretch 20

The Stretch 20 screed bottoms are reversible and retained to the frames by J-bolts. This allows the bottom to be dropped and reversed in a very short period of time in comparison to other screed types. Reversal provides a means to get maximum screed bottom life and reduce operational cost.

Cedarapids has Grade A (Premium) or Grade B (Economy) type replacement screed bottoms. The Grade A screed bottoms are standard equipment. These bottoms are made of Hardox -type material which provides a minimum of twice the wear compared to the Grade B screed bottoms in the same operation and asphalt material design. Normal screed bottom wear shows the trailing edge wearing faster than the leading edge. When the trailing edge thickness is 1/4 inch, the screed bottom should be dropped and reversed to get the maximum possible life. A screed bottom that shows the leading edge wearing faster than the trailing, is indicating either operational or screed adjustments are not correct.

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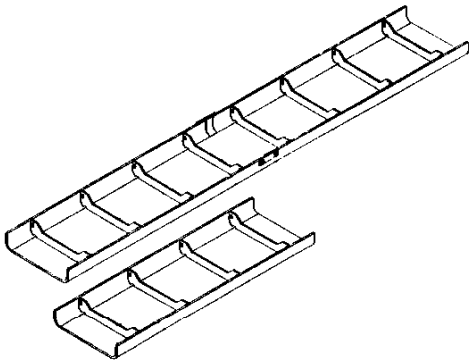
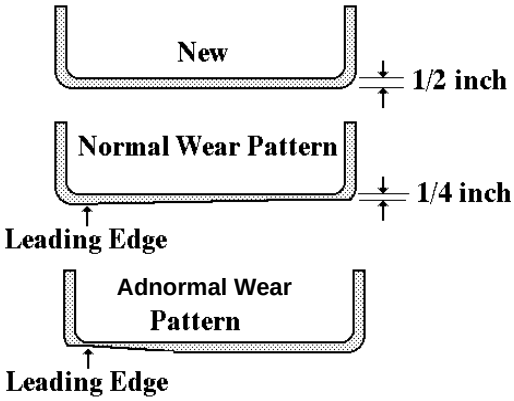
Screed

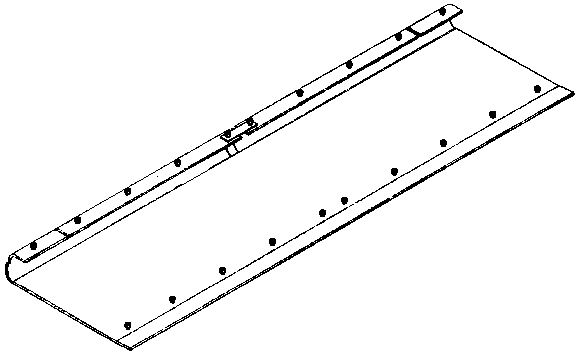


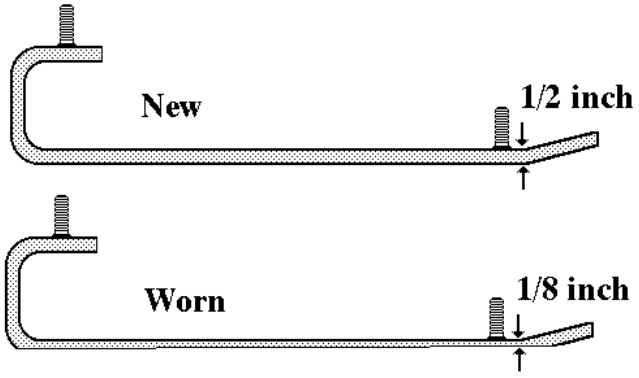


Fastach 10' and 8'

The Fastach screed bottoms are retained to the frames by welded studs on the front and rear of the bottom that protrude through to the top of the frame. This allows the bottom to be dropped and replaced in a very short period of time in comparison to other screed types, reducing down time when screed bottom replacement becomes necessary.

Cedarapids has Grade A (Premium) or Grade B (Economy) type replacement screed bottoms. The Grade A screed bottoms are standard equipment. These bottoms are made of High Alloy material which provides a minimum of twice the wear compared to the Grade B screed bottoms in the same exact operation and asphalt material design. Normal screed bottom wear shows the trailing edge wearing faster than the leading edge. When the trailing edge thickness is 1/8 inch, the screed bottom should replaced. A screed bottom that shows the leading edge wearing faster than the trailing, is indicating either operational or screed adjustments are not correct.



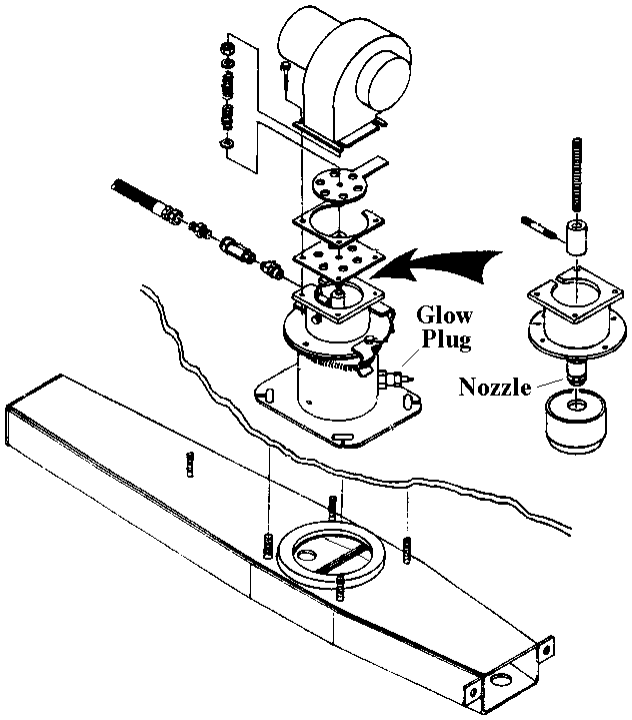


	Grade "A" Screed Bottom	Grade "B" Screed Bottom
Stretch 20 Main 10 Foot	9704-566-58	9704-560-70
Stretch 20 Rear 5 Foot	9704-566-55	9704-560-81
Fastach 10 Foot	9704-569-39	9704-561-47
Fastach 8 Foot	9704-561-80	

Screed Heaters

Cedarapids screeds have the most serviceable screed heaters in the industry. When service is required, flip the spring off the four retainer clamps and rotate the clamps outward. Lift the burner head off. Using a 5/8 inch socket, remove and replace the fuel nozzle. The glow plug is serviced from the outside. The screed heater/spray-down has a fuel filter to extend the life of the nozzles. There are also in-line filters for each heater on various models to add more protection. These filters should be replaced as necessary .

The screed heaters should be checked and serviced as necessary to ensure they work properly. The Fastach screeds use the gap between the screed bottom and the frame at the trailing edge as a vent. If this is allowed to plug with material, the screed heaters will not burn properly.



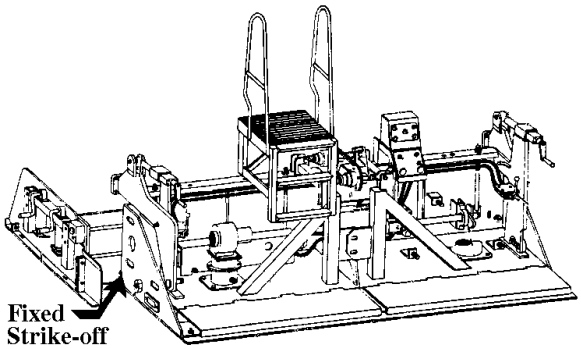
Check as necessary to ensure proper operation.

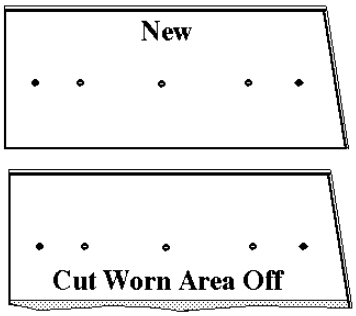
Replace fuel filters as needed.

Keep vent areas clear of asphalt buildup.

Fixed Strike-offs

The fixed strike-off plates on all screeds are high wear items and should be checked regularly. They can also be damaged or bent if the screed hits an obstruction like a water drain or a manhole cover. Normally a worn strike-off plate can be removed and the worn area marked as illustrated and cut off.





Hydraulic Strike-offs (Fastach 10 Foot and 8 Foot)

Daily maintenance should include cleaning off all asphalt that might get on the slide areas. The hydraulic strike-off extensions should be able to be extended and retracted without the extension drooping when extended. If it does, the wear strips and adjusters should be checked and adjusted as necessary.