



HAAS SERVICE AND OPERATOR MANUAL ARCHIVE

Bar Feeder Manual 96-0013 RevBB English August 2012

- This content is for illustrative purposes.
- Historic machine Service Manuals are posted here to provide information for Haas machine owners.
- Publications are intended for use only with machines built at the time of original publication.
- As machine designs change the content of these publications can become obsolete.
- You should not do mechanical or electrical machine repairs or service procedures unless you are qualified and knowledgeable about the processes.
- Only authorized personnel with the proper training and certification should do many repair procedures.

**WARNING: Some mechanical and electrical service procedures can be extremely dangerous or life-threatening.
Know your skill level and abilities.**

All information herein is provided as a courtesy for Haas machine owners for reference and illustrative purposes only. Haas Automation cannot be held responsible for repairs you perform. Only those services and repairs that are provided by authorized Haas Factory Outlet distributors are guaranteed.

Only an authorized Haas Factory Outlet distributor should service or repair a Haas machine that is protected by the original factory warranty. Servicing by any other party automatically voids the factory warranty.

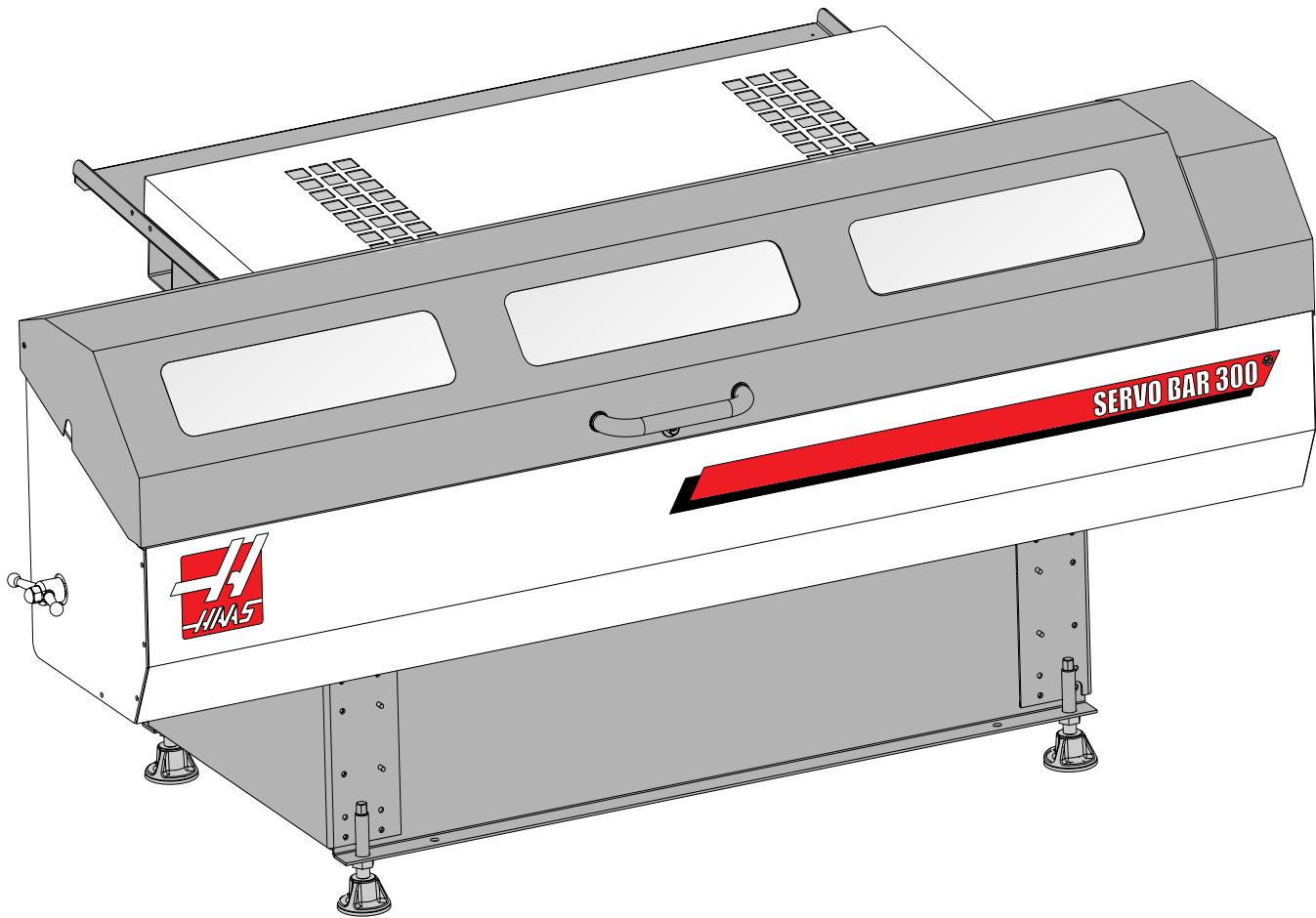


Haas Technical Publications

96-0013 Rev. BB Aug 2012

SERVO BAR 300 Bar Feeder

Application, Installation and Operator's Manual



ATTENTION!
Important Placement Instructions Enclosed
See Lifting and Installation Section on Page 10.

Haas Technical Publications
Installation, Application and Operator's Manual

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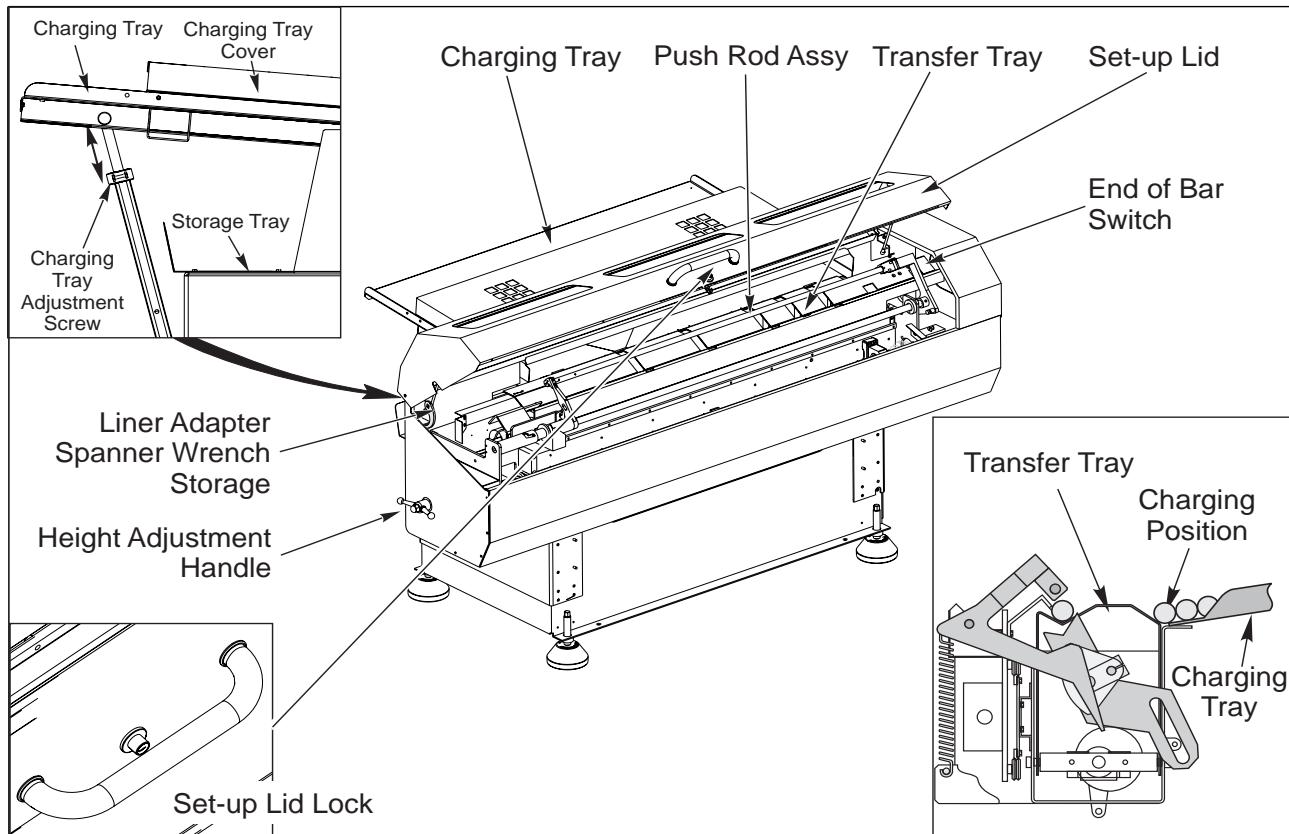
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Servo Bar Feeder Overview

The Haas Bar Feeder features a heavy-duty yet compact design, with up to 3 1/8" (79 mm) bar capacity and a footprint of only 4.5' x 8' (1.38 m x 2.43 m). Designed to boost productivity and streamline turning operations, this servo-driven Bar Feeder is built by Haas exclusively for Haas CNC lathes.



For Servo Bar Feeder shipping dimensions see ES0428.

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Declaration of Incorporation

Product: Servo Bar 300 Magazine Bar Feeder

Model: _____ Serial Number: _____

Manufactured By: Haas Automation, Inc.
2800 Sturgis Road, Oxnard, CA 93030 805-278-1800

We declare, in sole responsibility, that the above listed product, to which this declaration refers, cannot function independently and does not change the function of the machine it is attached to. The Servo Bar 300 when incorporated into Hass CNC Lather(turning centers), complies with the regulations as outlined in the CE directive for turning centers.

- Machinery Directive 2006/42/EC
- Electromagnetic Compatibility Directive 2004/108/EC
- Low Voltage Directive 2006/95/EC

Additional Standards:

- EN 60204-1:2006/A1:2009
- EN 614-1:2006+A1:2009
- EN 894-1:1997+A1:2008
- EN 13849-1:2008/AC:2009
- EN 14121-1:2007

RoHS: COMPLIANT by Exemption per producer documentation. Exception by:

- a) Large scale stationary industrial tool
- b) Monitoring and control systems
- c) Lead as an alloying element in steel, aluminum and copper

Person authorized to compile technical file:

Patrick Goris

Address: Haas Automation Europe
Mercuriusstraat 28
B-1930 Zaventem
Belgium

USA: Haas Automation certifies this machine to be in compliance with the OSHA and ANSI design and manufacturing standards listed below. Operation of this machine will be compliant with the below-listed standards only as long as the owner and operator continue to follow the operation, maintenance, and training requirements of these standards.

- OSHA 1910.212 - General Requirements for All Machines
- ANSI B11.5-1984 (R1994) Lathes
- ANSI B11.19-2003 Performance Criteria for Safeguarding
- ANSI B11.22-2002 Safety Requirements for Turning Centers and Automatic Numerically Controlled Turning Machines
- ANSI B11.TR3-2000 Risk Assessment and Risk Reduction - A Guideline to Estimate, Evaluate, and Reduce Risks Associated with Machine Tools

CANADA: As the original equipment manufacturer, we declare that the listed products comply with regulation as outlined in the Pre-Start Health and Safety Reviews Section 7 of Regulation 851 of the Occupational Health and Safety Act Regulations for Industrial Establishments for machine guarding provisions and standards.

Further this document satisfies the notice in writing provision for exemption from Pre-Start inspection for the listed machinery as outlined in the Ontario Health and Safety Guidelines, PSR Guidelines dated April 2001. The PSR Guideline allows that notice in writing from the original equipment manufacturer for conformity to applicable standards as acceptable for the exemption from Pre-Start Health and Safety Review.

Safety

Before starting any work on the machine, read this manual and the warning labels on the machine. Ensure that all personnel using this equipment understand the hazards that are present with automatic equipment. Individuals not associated with production or who are unfamiliar with this type of equipment must be kept away.

The Bar Feeder is controlled by the lathe and may start at any time.

Cautions

- Read and follow all safety instructions, warnings and cautions associated with this machine.
- Read and follow all machine maintenance, setup and operation instructions.
- Read and follow spindle liner installation and use instructions.
- Disconnect all sources of power before maintaining, servicing or altering setup of this machine.
- Lethal voltages may be present; disconnect main power before servicing this machine.
- Incorrect setup of Bar Feeder or spindle liner tubes can cause workpiece or rotating parts to be ejected with lethal force and may destroy machine(s).
- Follow all setup precautions and verify correct setup before automatic operation.
- The Bar Feeder is automatically controlled and may start at any time.
- Warn persons nearby about automatic machine in operation.
- Do not operate lathe or Bar Feeder with access doors or operator doors open.
- Moving parts inside; keep body, limbs and foreign objects out of machine during operation.
- No user serviceable parts inside machine. Contact your dealer for approved service.
- Replace worn or broken Bar Feeder components or spindle liners immediately.
- Do not alter or modify the Bar Feeder in any way.
- Do not use Bar Feeder beyond recommended limits of speed or material capacity.
- Do not use Bar Feeder without proper size spindle liner installed.
- Do not operate or allow others to operate Bar Feeder until receiving user and safety training.
- Stop spindle if vibration or noise is present. Find and correct condition before operating machine.
- Do not attach dead stop, bar pilot bushing or anti-vibration collars to the body of the rotating union (chuck closing cylinder) of lathe. Violent, catastrophic failure of rotating union can occur at high spindle RPM if rotating union is damaged by body attached devices.
- Do not operate spindle with bar material unclamped or extending beyond the spindle liner.
- Damage resulting from incorrect or improper use will not be covered under the machine(s) warranty.
- Do not start or continue a machine cycle unless you are certain of the part off allowance.

Lathe Preparation

Spindle Liners

When using a Bar Feeder with an ST-30 Big Bore lathe, you must install spindle liners. For all other lathes, spindle liners are optional when using a Bar Feeder.

See ES0603 for information on all spindle liner kits, including installation and part reorder information.

ST-10 Bar Feeder Interface Plate

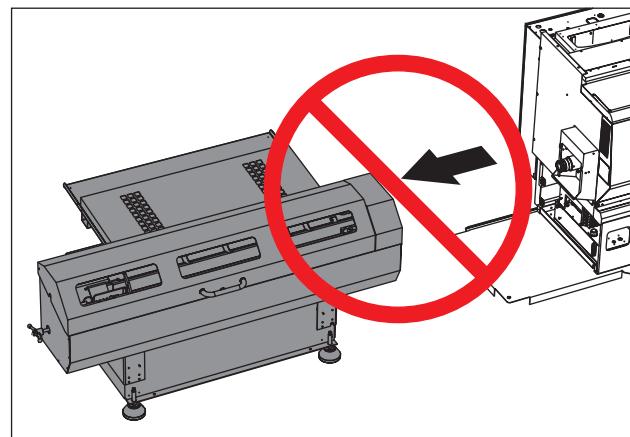
ST-10 lathes with a Bar Feeder may need an additional plate installed at the Bar Feeder interface to prevent coolant spray from exiting the coolant collector.

You should install this plate before installing the Bar Feeder for the first time, but you can install and remove this plate at any time while the Bar Feeder is installed.

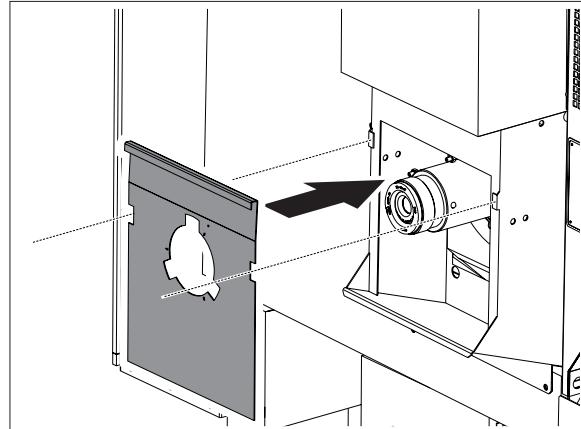
Before You Begin! Remove any bar stock between the Bar Feeder and the lathe spindle.

1. For clarity, the Bar Feeder is not shown in the illustrations for this procedure.

If you are installing the interface plate when the bar feeddeer is already installed, you DO NOT need to remove the Bar Feeder to complete this procedure.

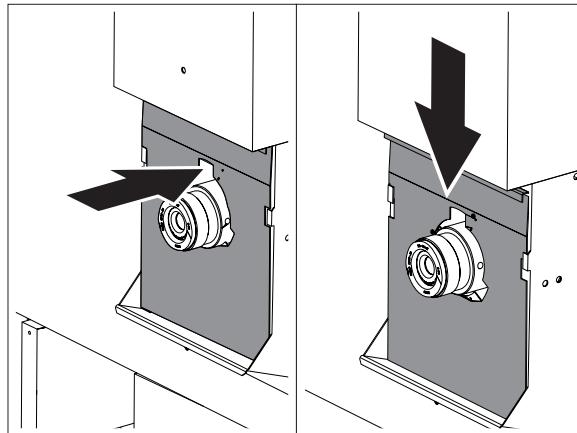


2. Align the interface plate with the liner adapter and the tabs on the coolant collector.



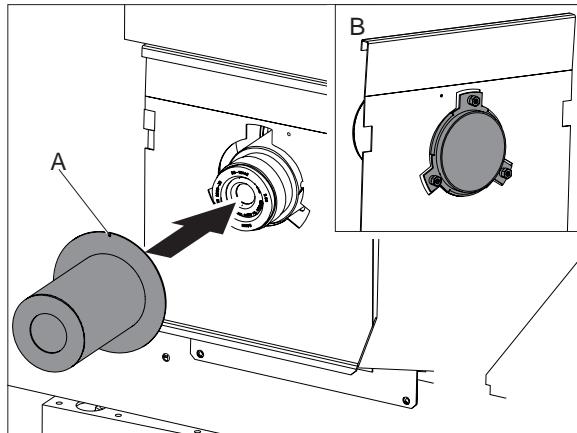
3. Push the the interface plate in, then slide it down so the coolant collector tabs lock it in place.

If the interface plate does not slide into place, tap it gently into place with a dead blow hammer.

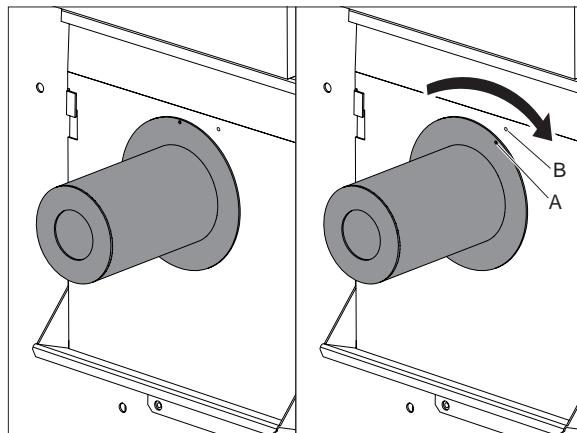


4. With the small hole on the flange at the top (A), put the bar tube into the interface plate.

The mounting tabs on the tube fit into the slots on the plate. For clarity, inset view (B) illustrates this from the other side of the plate.



5. Turn the bar tube clockwise until the small hole in the bar tube flange (A) lines up with the small hole in the interface plate (B).



To remove the interface plate, remove any bar between the lathe and the Bar Feeder, turn the bar tube counter-clockwise to remove the tube, then pull the interface plate up and out of the coolant collector.

Lifting and Installation

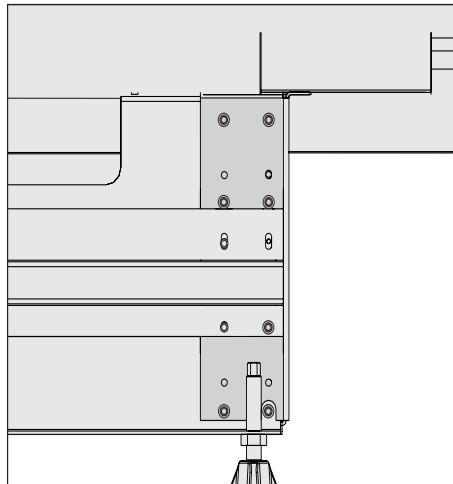
ATTENTION!

Important Placement Instructions Enclosed

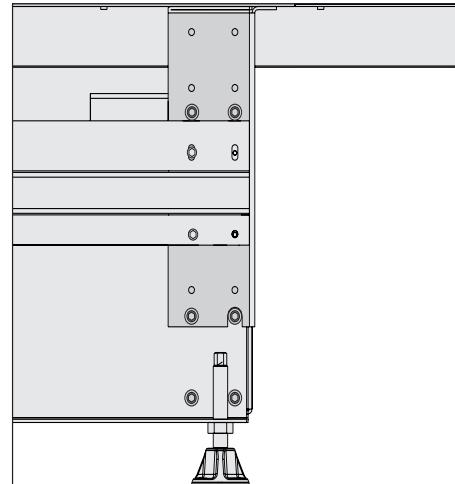
Please read these instructions for proper Bar Feeder placement.

The Bar Feeder is shipped in only one of two height configurations to match the models indicated.

ST-10, ST-20 Series.



ST-30, DS-30 Series



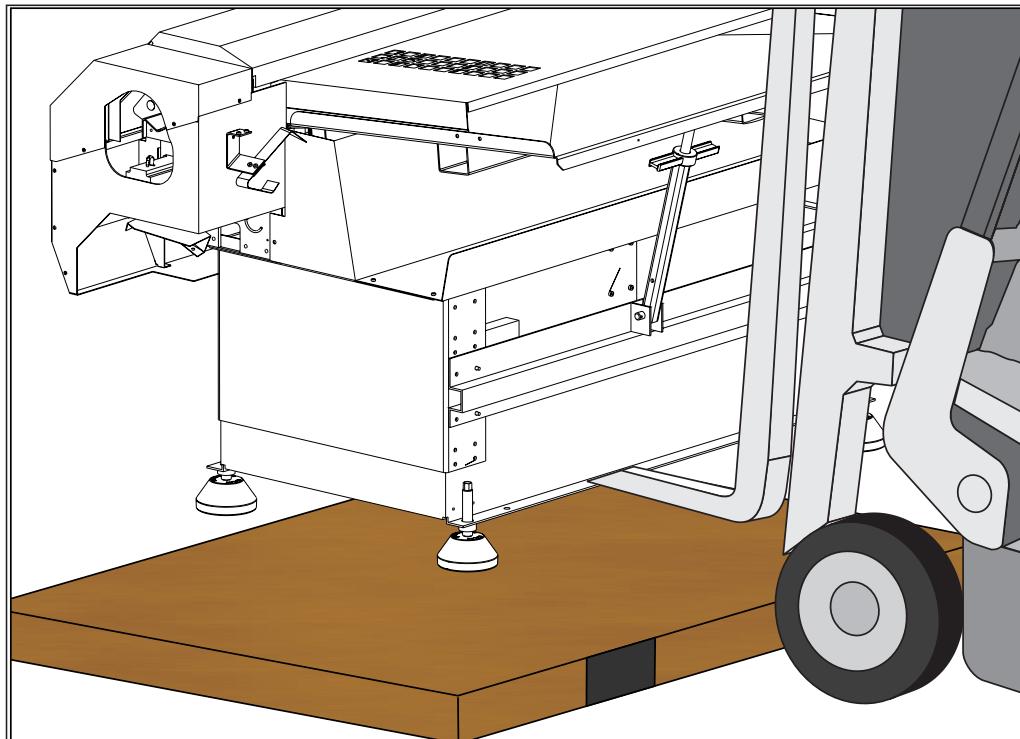
See Bar Feeder Compatibility on page 48 and Height Adjustment on page 51 for other lathe model compatibility and height adjustment procedures.

Uncrating and Assembly

Do not position the Bar Feeder until after installing the Liner Adapter Kit.

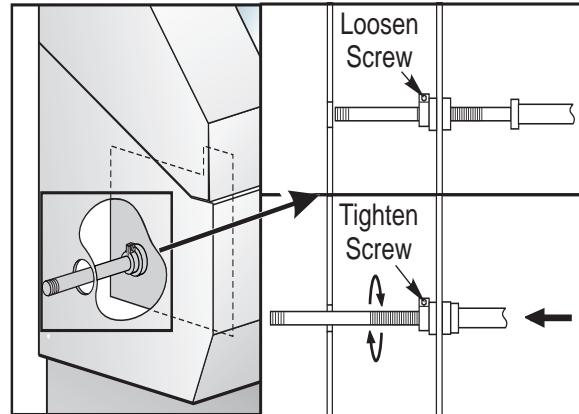
See Lathe Preparation on page 8.

1. Carefully remove the alignment plate from the charging table and accessories from the Bar Feeder and pallet.
2. Remove the four lag bolts holding the base to the pallet and lift the machine off of the pallet.

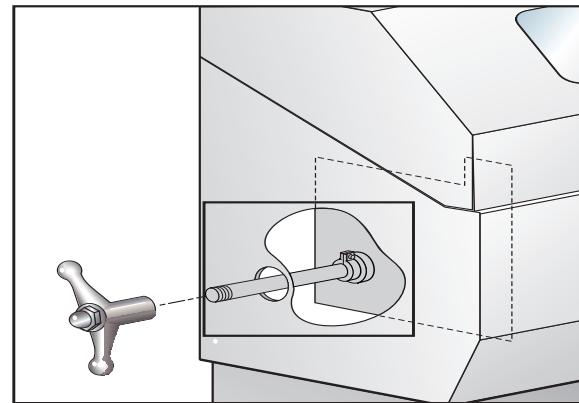


3. Remove the zip ties holding the push rod in place.

4. Reposition the height adjustment shaft.
Loosen the set screw on the locking collar as shown. Turn the height adjustment shaft until the inside locking collar meets against the bulkhead. Reposition the outside collet and tighten the set screw.

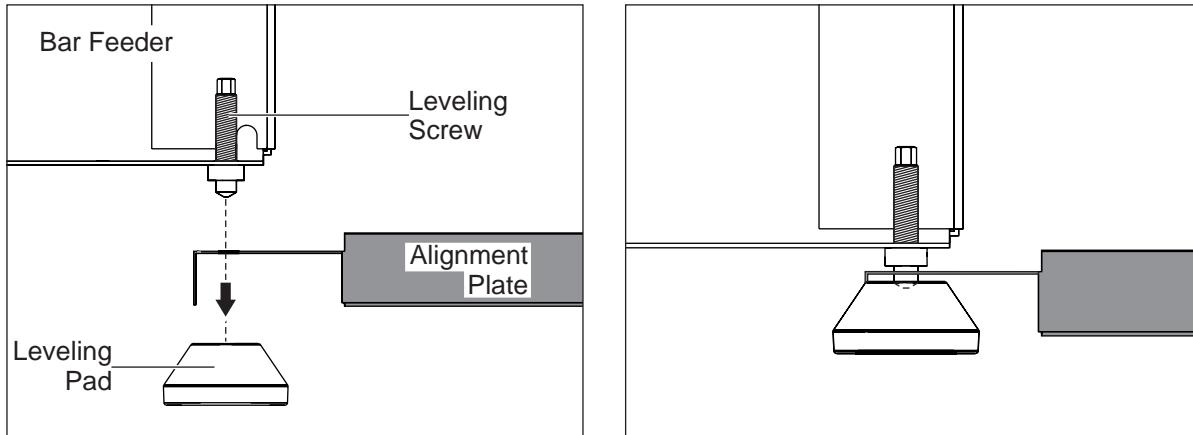
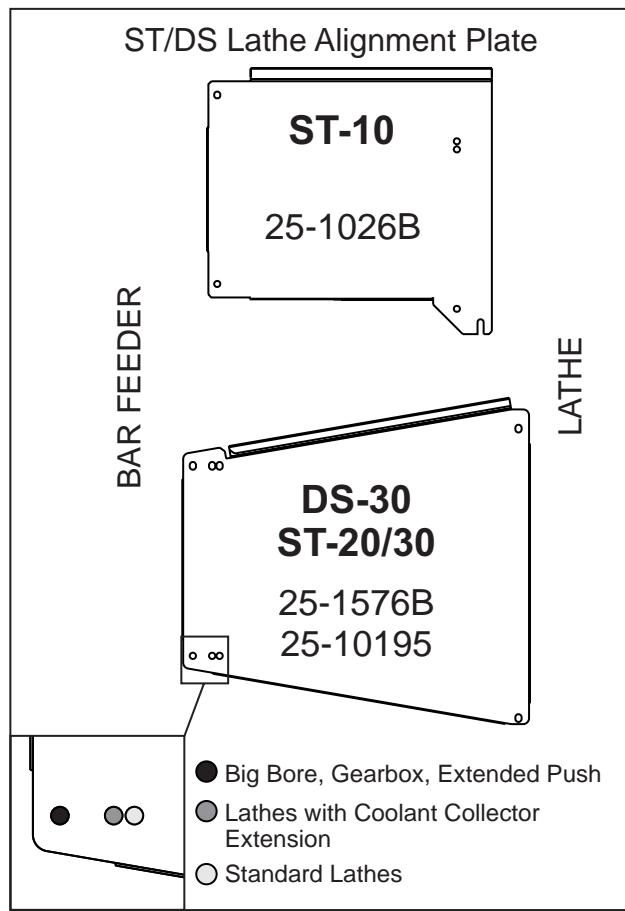


5. Install the height adjustment handle.



Bar Feeder Positioning

1. Lift the left side of the lathe off the leveling pads and position the alignment plate under the two leveling screws. Lower the lathe and re-level.



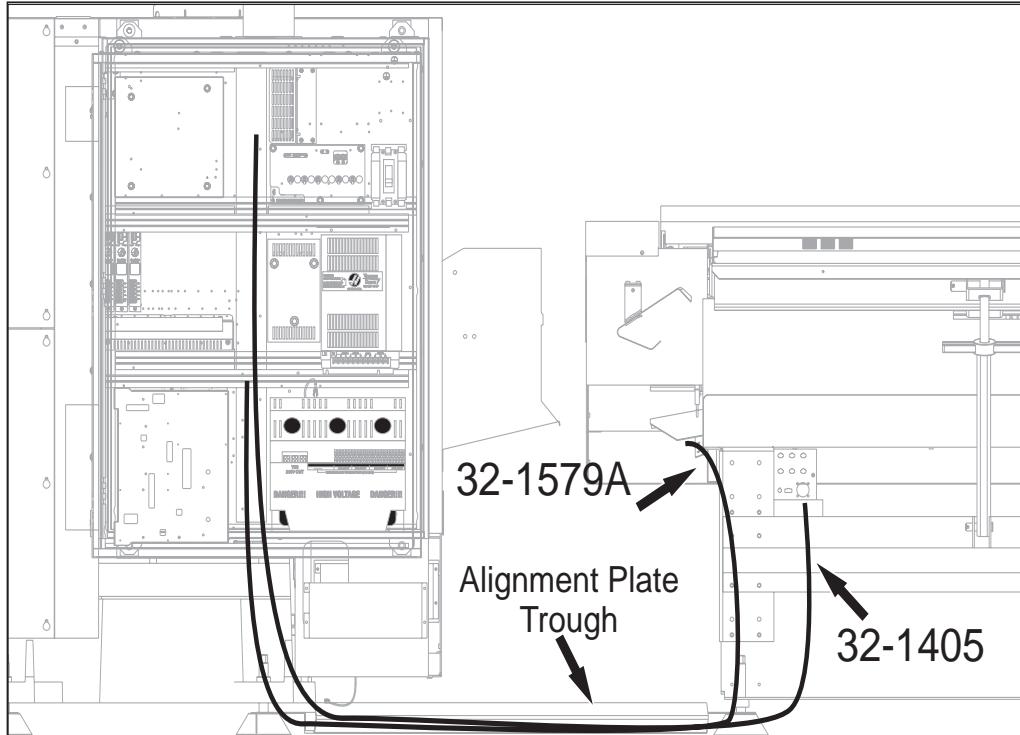
2. Lift the Bar Feeder with a pallet jack or forklift. Align the right side leveling screws to the appropriate holes in the alignment plate. Align the leveling pads with the leveling screws and lower the Bar Feeder onto the pads.

Bar Feeder Cable Routing

Warning!

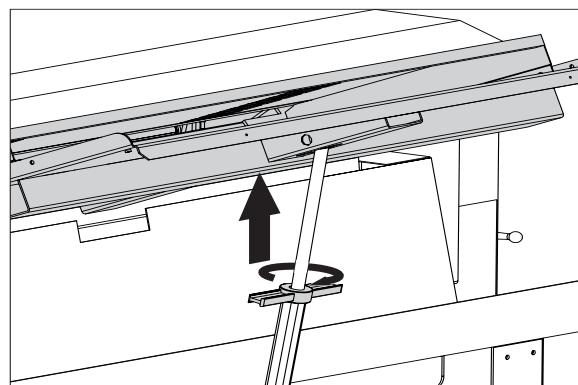
Bar Feeder cables must be routed correctly to avoid damage.

NOTE: Refer to cable labels to make sure the correct cable ends are in the proper location.

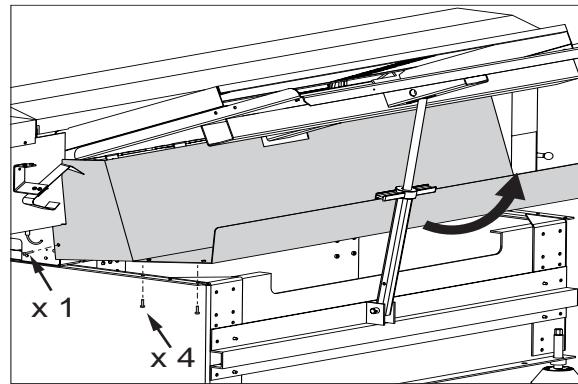


On ST-10/20 series it may be necessary to remove the storage tray to route the cables and gain access to the cable connecting plate.

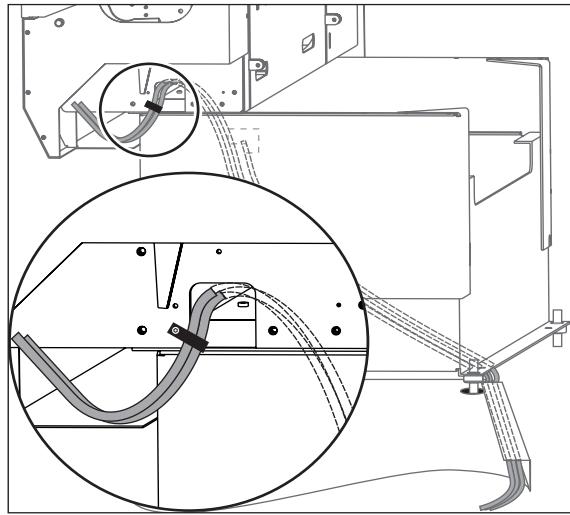
1. Raise the charging tray to its highest position.



2. Remove the storage tray to gain access to the Bar Feeder bracket and cable routing.



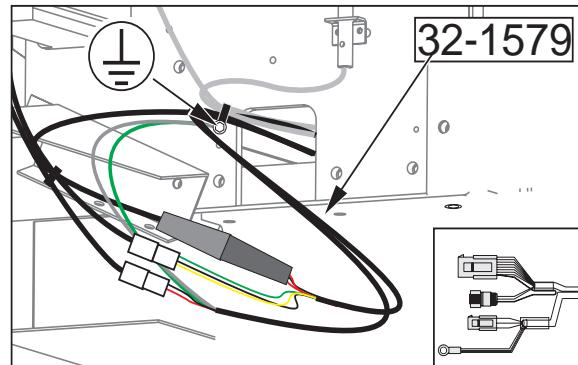
3. Feed Cable 32-1579A through the opening in the lathe side of the Bar Feeder and down through the alignment plate trough.



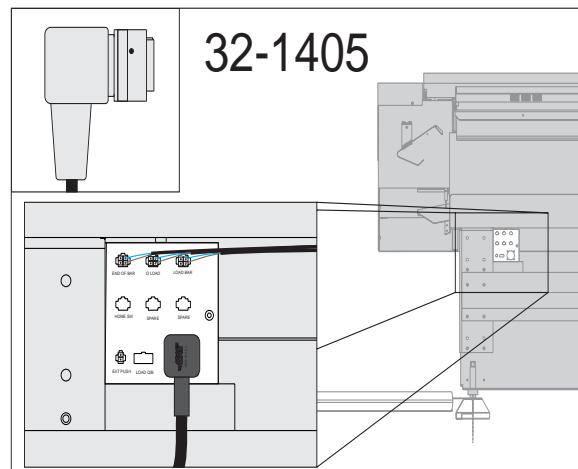
Do not route cables over the side of the Bar Feeder. This will result in pinched or broken cables.
Route cables under the machine using strain reliefs.

Cable Connections - Bar Feeder

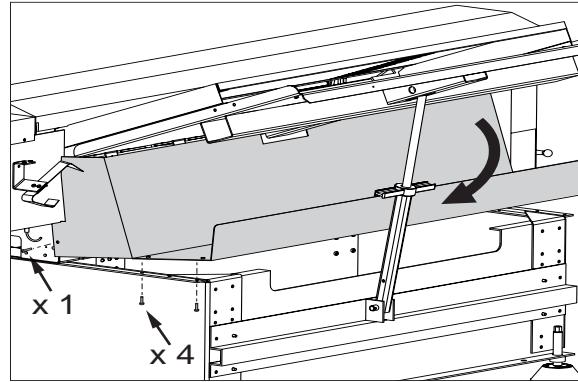
1. Connect cable 32-1579 to the Bar Feeder. Use cable ties to secure the connectors under the protective plate. Ground the cable using the cable clamp screw.



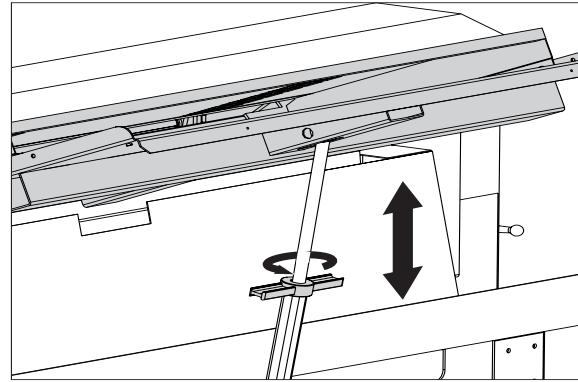
2. Connect cable 32-1405 to the socket on the Bar Feeder bracket.



3. Install the storage tray.



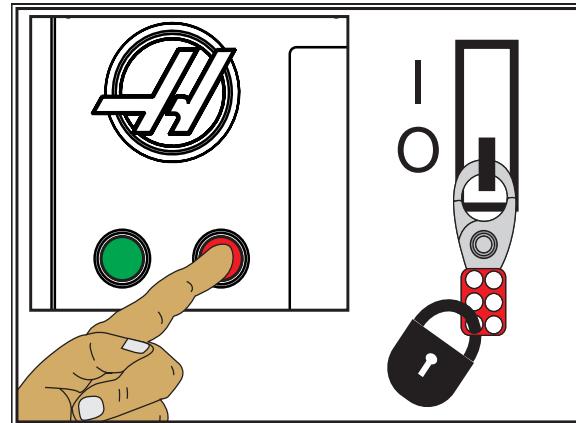
4. Adjust the charging tray to the desired position. For most round stock, the angle of the charging tray should be set to 5° above horizontal.



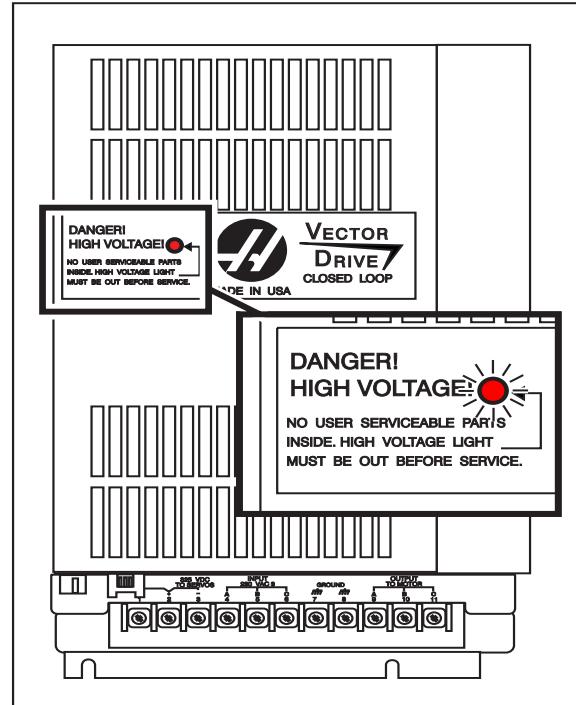
Electrical Installation

Installing the Interface

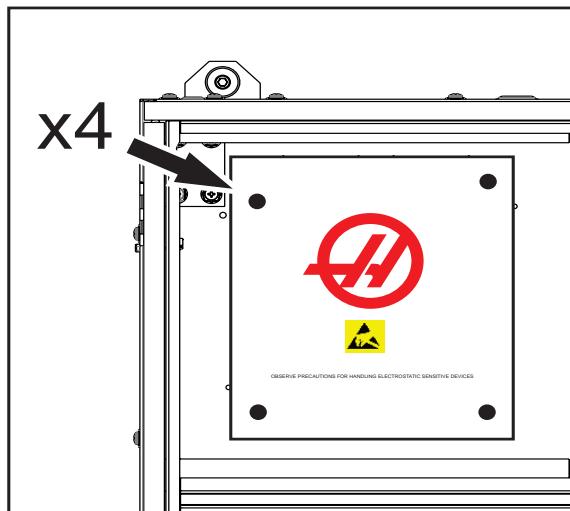
1. Press the Power Off button. Open the cabinet door. Turn off and lock out system power.



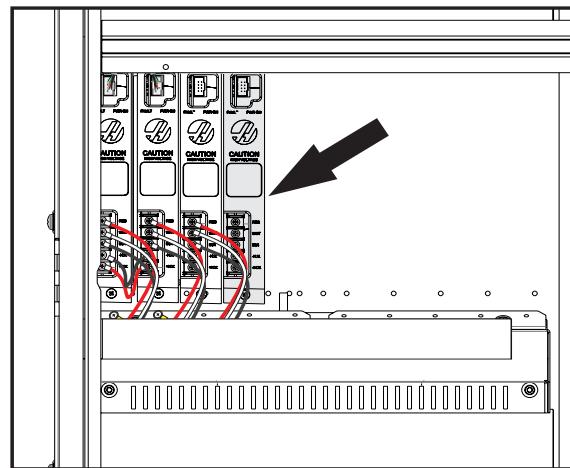
2. Ensure that the 320V bus on the Vector Drive has been completely discharged before beginning work.



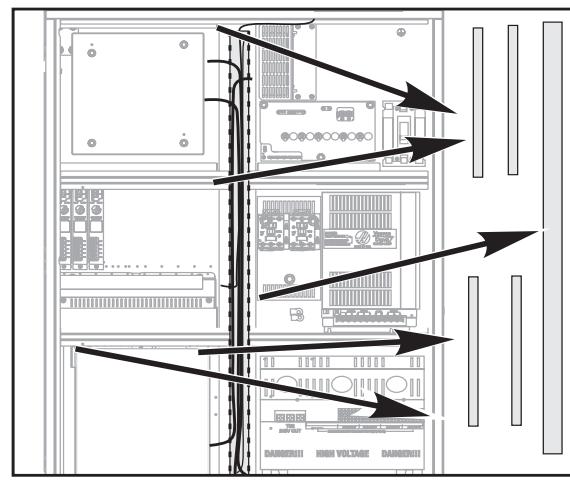
3. Remove the Maincon cover.



4. Add the Bar Feeder Amplifier (P/N 32-5550D) into its assigned slot.

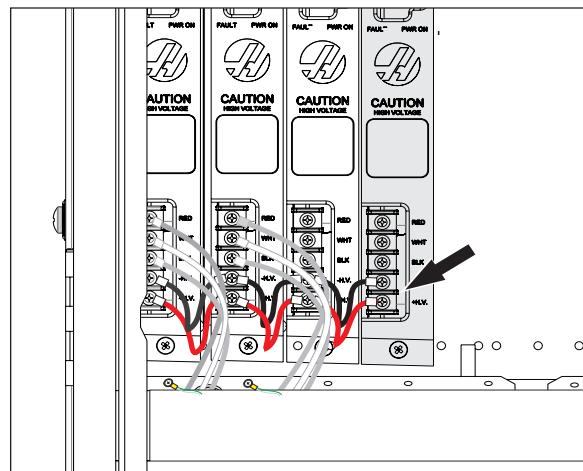


5. Remove the cable channel covers.



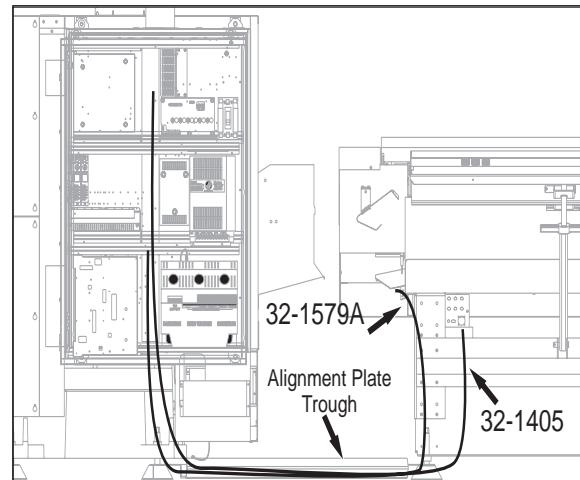
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6. Attach the jumpers between the High Voltage Power connection of the closest amp and the Bar Feeder amp.

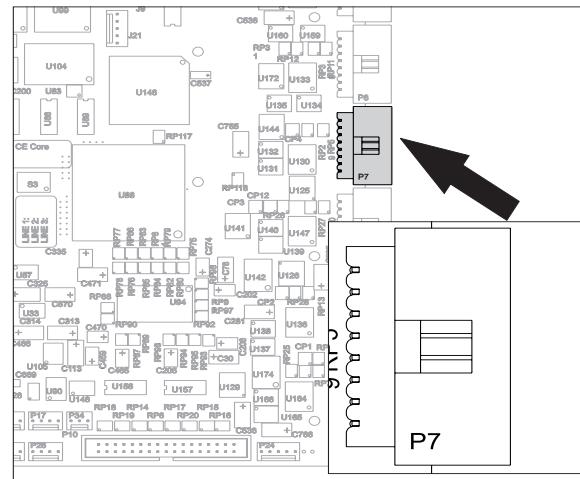


Cable Connections - Lathe

- Route the cables through the alignment plate trough and up thorough the bottom of the control cabinet.

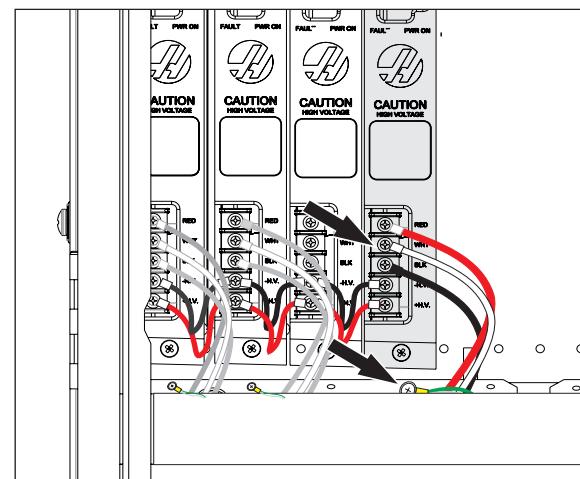


- Plug the Bar Feeder encoder cable into the Y-axis port (P7) on the Maincon PCB.



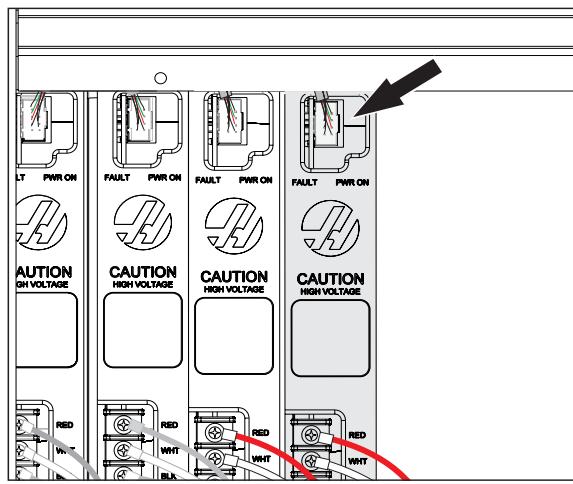
NOTE: Y-Axis lathes: Connect the Bar Feeder signal cable to P6 on Maincon board II.

- Connect the BF MOTOR AMP end of cable 32-1579A to the amp and ground.

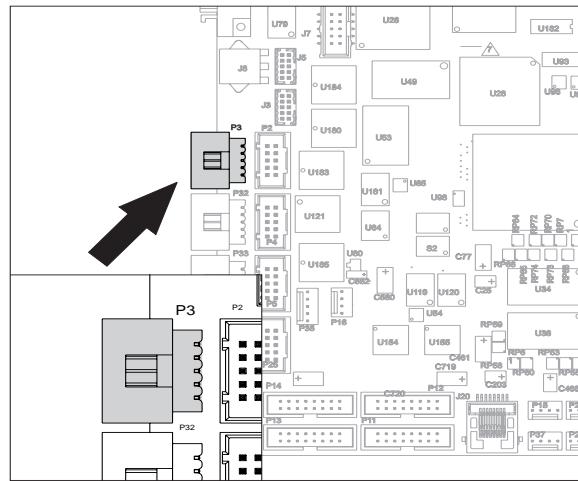


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4. Plug one end of cable 33-0610 into the amp Servo Drive Current Commands port.

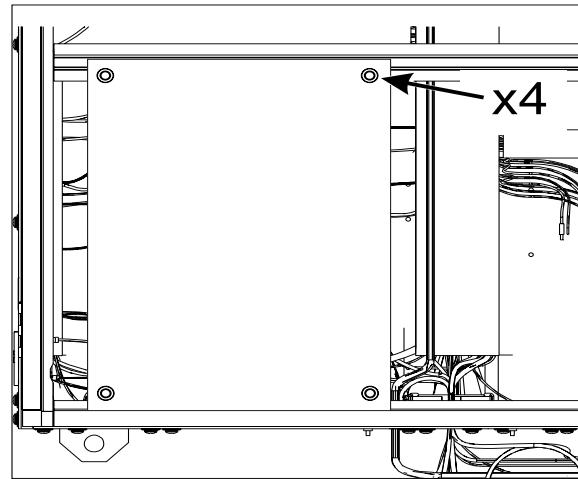


5. Plug the other end of 33-0610 into the Current Commands port (P3) on the Maincon board.

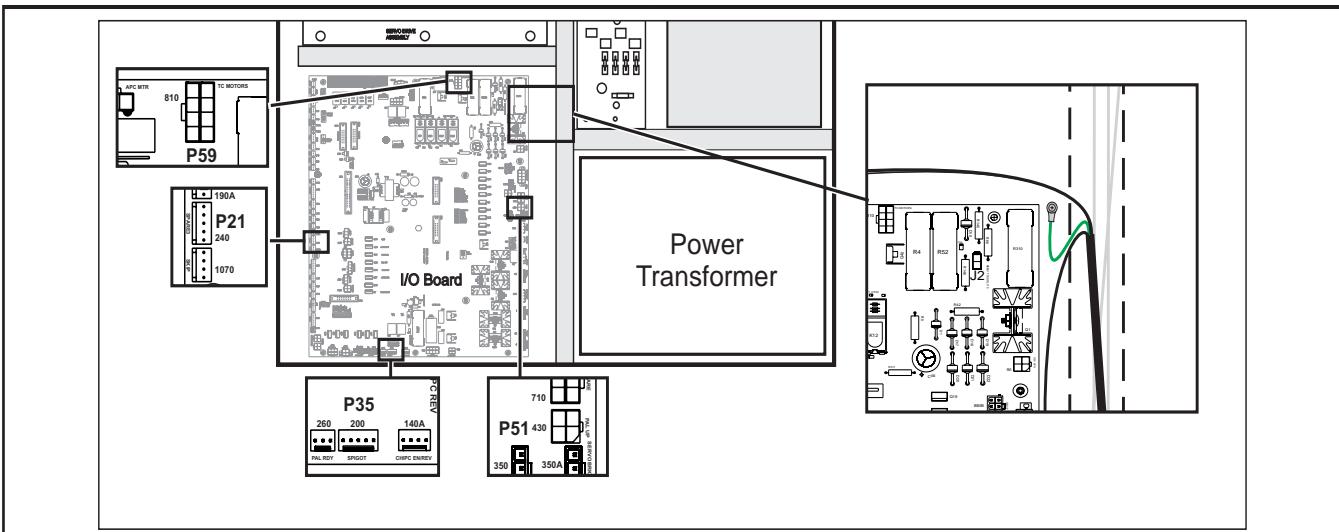


NOTE: Y-Axis lathes: Connect the Bar Feeder signal cable to P2 on Maincon board II..

6. Remove the I/O Board Cover.



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7. Position the ground of P/N 32-1405 as shown and plug the individual connectors into the I/O card as specified on the labels.

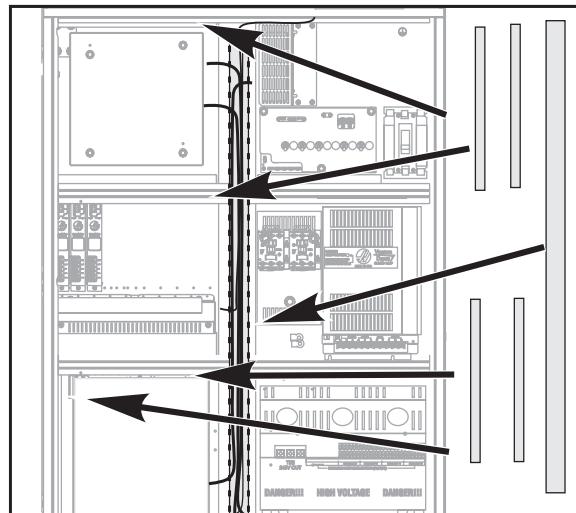
Cable 200 End of Bar to P35 on the I/O PCB.

Cable 240 Bar Feeder to P21 on the I/O PCB.

Cable 430 Extend Push to P51 on the I/O PCB.

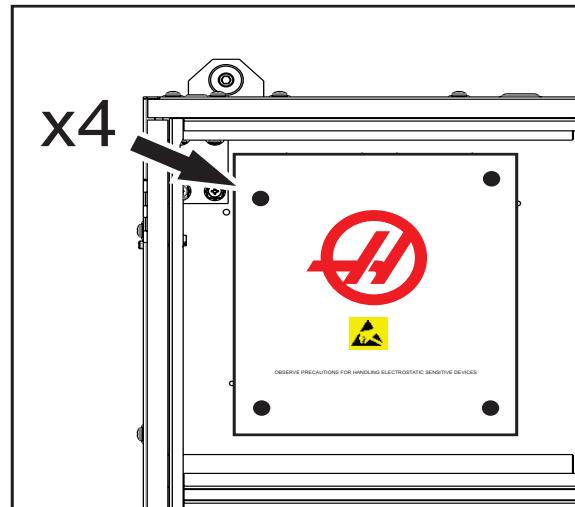
Cable 810 Bar Feeder Motor/A Drive to P59 on the I/O PCB.

8. Reinstall the cable channel covers.

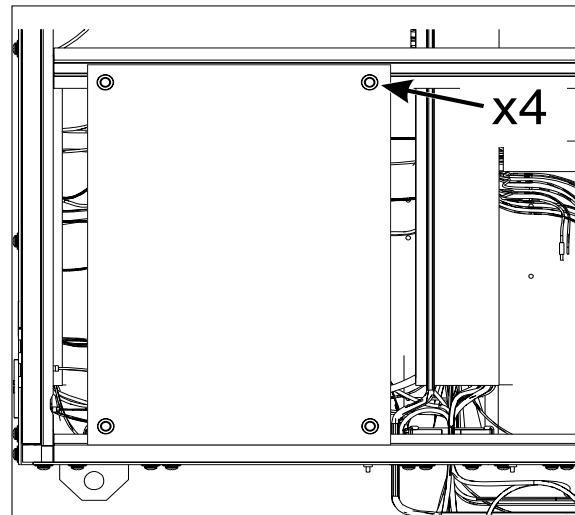


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9. Reinstall the maincon cover.



10. Reinstall the I/O board cover.



11. Remove the Lock out Tag out device and close the cabinet door.

Note: Use cable ties to raise excess cable off the floor under the Bar Feeder.

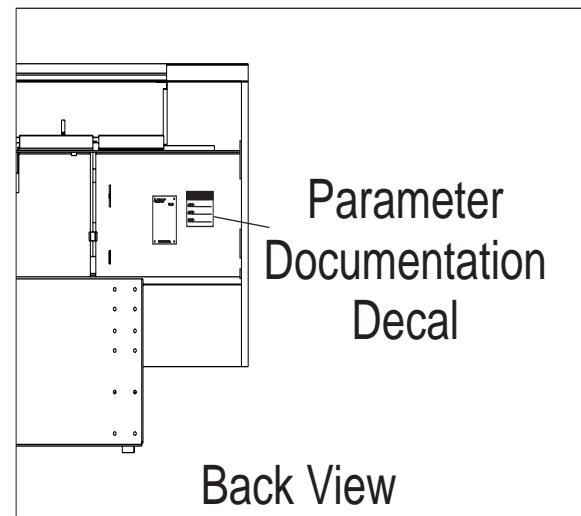
Change Parameters

1. Power on the lathe, update the following parameters and check for alarms.

PARAMETER	NAME	VALUE
315 bit 7	Brless Bf	1
316	Measure Bar Rate	25000 for inch mode, 1000 for metric
390 bit 3	Disabled	0
390 bit 12	Low Pass+1X	1
390 bit 13	Low Pass+2X	0
390 bit 21	No Limsw Alm	1
399	V Fuse Limit	500,000
404	V In Position Limit	1000
405	V Max Current	1000 for 3/8" Push Rod; 1729 for 3/4" Push Rod
412	V Accel Feed Forward	125,000

2. The following Parameters are written on a decal at the left end of the Bar Feeder. Enter these values into the lathe control at set-up.

395	V Max Travel
409	Grid Offset
415	Tool Change Offset



Bar Feeder Leveling

1. Open the lid of the Bar Feeder. Place magnetic torpedo level on the top of the transfer tray and adjust the jacking screws to level the Bar Feeder.
2. Command G105 Q7 - Load Push Rod to set the push rod in the down position.
3. Press "V" on the keyboard then the Handle Jog button to enable push rod movement.
4. Use the jog handle to move the push rod toward the spindle until it just enters the spindle liner.
5. Measure the vertical alignment of the push rod centerline to the centerline of the spindle liner.
6. Adjust the leveling screws of the Bar Feeder until the push rod is vertically aligned with the spindle.
7. Measure the horizontal alignment of the push rod centerline to the centerline of the spindle liner.
8. Adjust the fore/aft positioning of the Bar Feeder until the push rod is horizontally aligned with the spindle by pivoting on the right end of the Bar Feeder.
9. Jog the push rod until it is flush with the spindle face.
10. Manually lift the push rod vertically to spindle center and check only for horizontal alignment and adjust the Bar Feeder as required.
11. Once the push rod is aligned at both ends of travel command G105 Q6 - Unload Push Rod to home the push rod.

Verify Alignment

1. Install a 1-inch liner and push by hand at least a 3 ft bar stock to ensure there is no binding through the liner.
2. Hand jog the push rod to make sure that the push rod will not interfere with the rear of the spindle or liner.
3. Push rod should travel through the entire liner without binding against the inner diameter of the liner.

Establish End of Bar Position

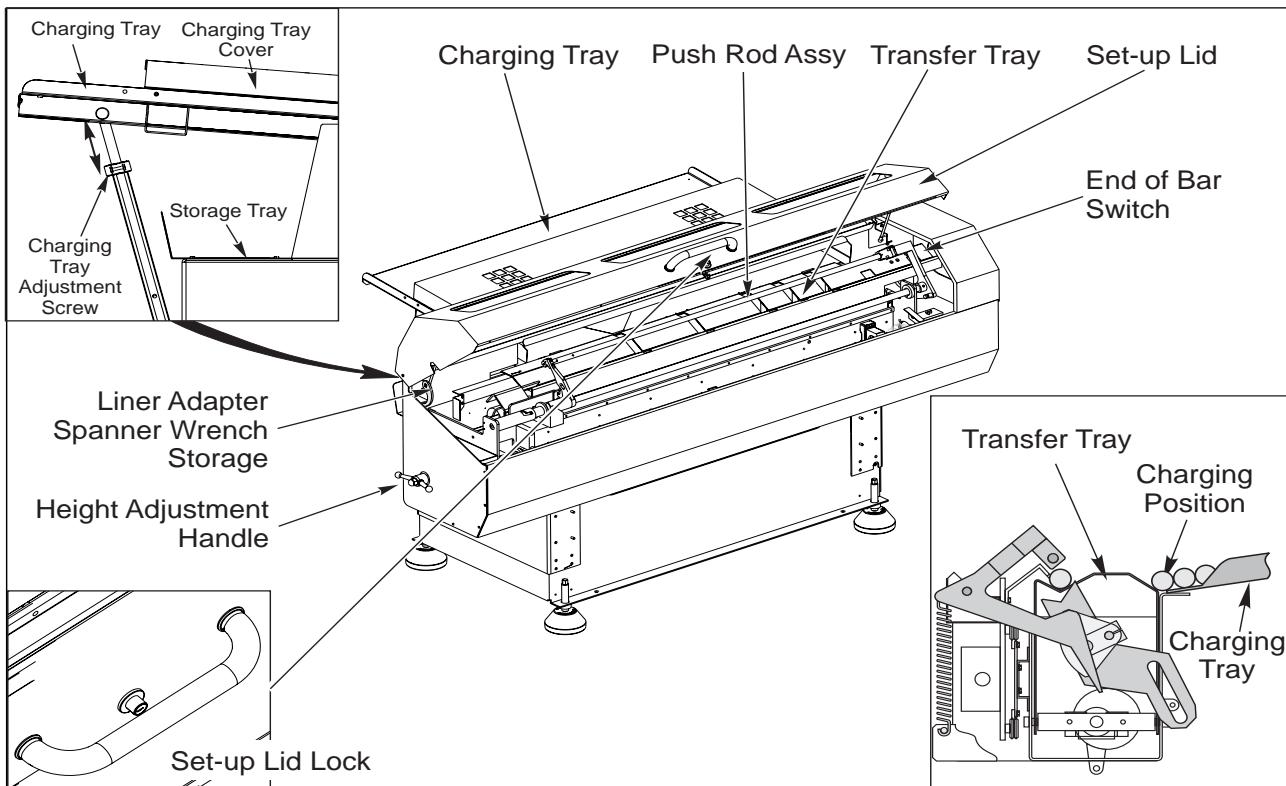
1. Place the 12" gauge bar supplied with the machine in the charging tray. Make sure the bar will be picked up by at least two of the pick arms or the bar may not load properly.
2. In MDI mode on the lathe control, enter G105 Q5 - Set EOB Position and press Cycle Start.
The Bar Feeder will load the bar and push it up to actuate the end of bar switch then stop, updating the value for macro variable # 3111.
3. Remove the gauge bar and begin setup procedures.

NOTE: If the 12" gauge bar is unavailable, a substitute bar may be used provided Parameter 325, Standard Bar Length, is reset to the new bar length. To do this, measure the new bar length, multiply it by 10000 and enter the number as the new parameter value. The default value is 120000.

Operation

Introduction

This section provides information on Bar Feeder programming and operation. This Operation section is to be used in conjunction with the Haas Lathe Operator's Manual.



The Bar Feeder can store a single layer of 60" long bars on its adjustable charging tray, located at the rear of the machine. A spindle liner must be installed in the lathe spindle and the transfer tray must be aligned to it before the machine is ready for operation.

When using a collet, it **must** be one that pulls the stock back against the push rod. Any other type will result in inaccuracies.

If the collet is changed or the Bar Feeder is moved, then G105 Q4 [R] - Jog To Reference Position and G105 Q2 - [I] Set Reference Position then Initial Push procedures must be repeated to reset the reference position.

Recommendations

- Study and use safe programming methods to avoid a tool crash into a non-part off condition.
- Spindle liners are oversized and do not grip the outside of bar material. If vibration or poor surface finish occurs, check bar-liner clearance.
- Leading end of bar should be chamfered. Successful bar feeding requires a smooth bar path. Collets should have lead-in corners chamfered. Sharp lead-in corners must be removed. Any sharp corners in the bar path must be removed. Corners cause feeding problems.
- When manufacturing custom liners or small bar discs use a generous lead in chamfer.
- It may be helpful to add lead into the rear of collets to guide bar material into position.
- Check for obstructions in bar path after any mishaps.
- Liner must be centered in the spindle and be just large enough to allow the bar to pass through freely.
- The larger the bar material diameter, the shorter the bar and the closer the bar liner fit.
- Intermittent cutting tool damage or poor part consistency may be caused from using excessively long bar stock, irregular bar diameter, bent bar stock, dirty or contaminated bar stock.
- Bar should not extend past the end of the liner when machining.
- Reduce spindle speeds when using full length bars to avoid or reduce out of balance vibration.
- Bar should be wiped clean before placing on charging tray. Dirty bar stock increases liner wear and may become jammed inside liner or not pilot into the work holding device.
- Do not use the 3/8" push rod to push 3/4" or larger stock.
- Do not use bent or irregular stock. Square, hex or obround bar material will require special piloting and alignment methods.
- Use a drawback collet. The push rod is held in place while the collet is closed. If material is not pulled into pusher by draw tube, length variation may occur.
- End of bar that contacts push rod must be cut at 90° or protrusions or length variation will occur.
- Elevate charging tray just enough to allow bar to feed. Too much height will cause bar overrun and the possibility of multiple bars being transferred.
- All bars loaded from the charging tray should be at least 10" (254mm) long, or a minimum of 2.25 times the distance from the end of the transfer tray to the start of the liner bore, whichever is longer.
- When feeding large diameter heavy material bar length should not exceed 36" (914mm).
- Short bars should be placed on the charging tray close to the lathe.
- Withdraw the 3/8" push rod from the liner before the spindle reaches speed; set minimum retract to 32" (813mm).
- Make sure setup tools and spare spindle liners are out of Bar Feeder before operation.
- Store liners in the rack mounted to the rear of the Bar Feeder.

Hex Stock

- Hex liners are required when using hex stock.
- When the charging tray and height adjustment are correct, the bar will usually be placed in the transfer tray at the same orientation.
- The bar lead end should have flats beveled at a 30° angle.
- Set spindle orient option (Rn.nnn) to align the collet flats with loaded bar flats.
- Collet's inside corner should be beveled.
- Big Bore: When running 5/8" and smaller hex stock in the Haas Universal Liner, the first two spindle liner disks should be hex shaped and oriented with the collet.

Drawtube Cover Plate

- It is necessary to remove the cover plate at the far end of the drawtube when using a Bar Feeder.
- Replace the cover plate any time bar stock is not being fed automatically.

Modes of Operation

The Servo Bar Feeder 300 has two modes of operation, setup and run.

Setup Mode

Setup mode allows a trained user to load and adjust the machine to feed bar. Raise the setup lid to view the path of the bars. Never put your hands in the enclosure of the Bar Feeder unless the Emergency Stop button on the lathe is pressed in. It is at this stage that the operator is most vulnerable to dangers, such as:

- Pinched fingers between bars.
- Pinched fingers/hand from moving mechanism.
- Pinch point between Bar Feeder and lathe.
- Pinched fingers/hand between charging tray and transfer tray.

Run Mode

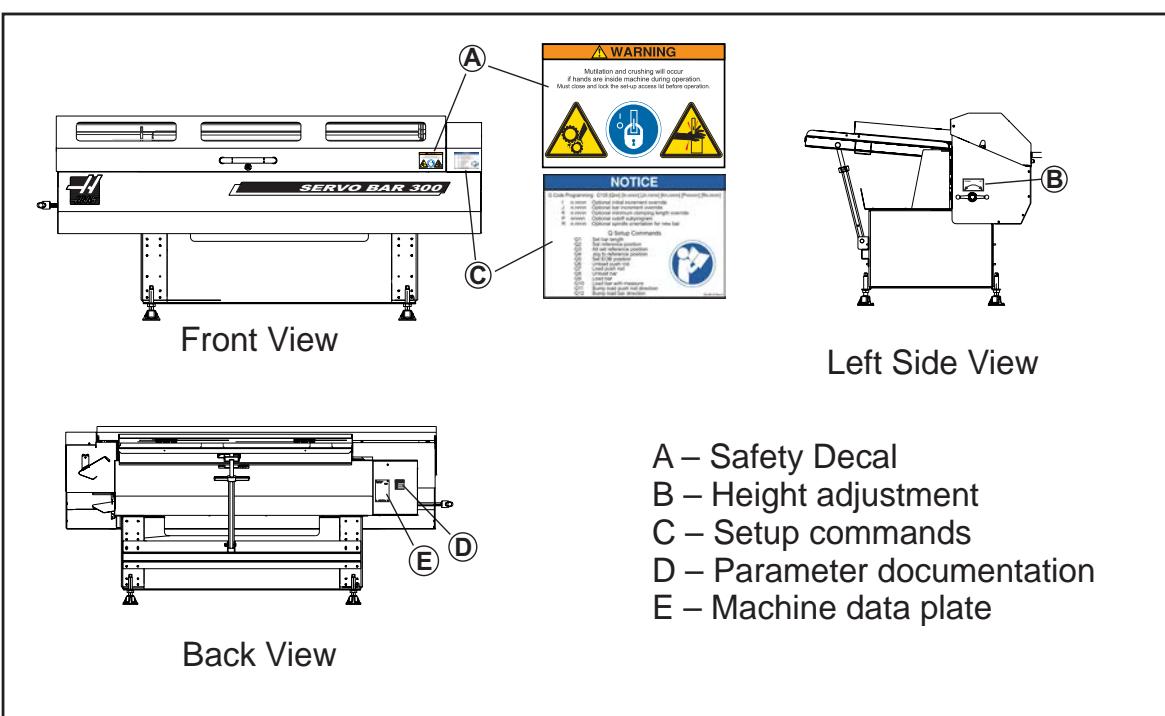
Close and secure the setup lid with the lock before running a program. Doing so is considered Run mode. Securing the lid closed with the lock will significantly help to keep others safe from harm.

WARNING

The area between the Bar Feeder and the lathe may be a hazard.

Hands or fingers may be pinched if placed between the two machines.

Always press the Emergency Stop button before you put anything between the Bar Feeder and the lathe.



Servo Bar 300 Quick Start Guide

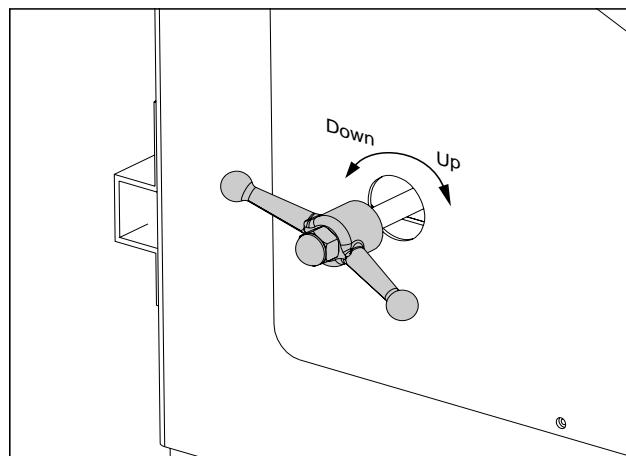
1. Install a spindle liner for the bar size used and adjust the transfer table to proper height. The bar must slide from transfer table into the liner without interference.
2. Load bar stock on to the storage tray. Note: The bar length must be a minimum 2.25 x the gap between the Bar Feeder and the liner, or at least 10" (254mm) long.
3. Press Curnt Comds, and page down to the Servo Bar page. Enter the part length + cutoff, initial push length and the minimum clamping length.
4. Enter G105 Q4 - Jog To Reference Position, in MDI mode and press Cycle Start. The bar will be loaded and pushed through the liner to within 4" (102mm) of the collet face. Press Reset and jog the end of bar to the reference position. Close collet.
5. Enter G105 Q2 - Set Reference Position, in MDI mode. Bar Feeder is ready for operation. Write a machining program that has the G105 command at the end of the program.

Setup

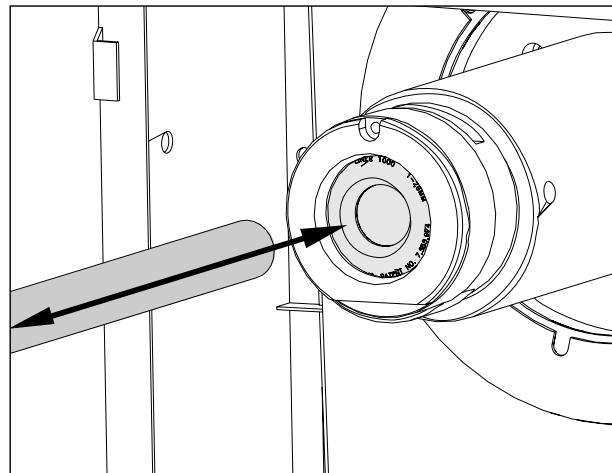
Transfer Tray Adjustment

Any time different diameter barstock is used in the machining process, the spindle liner must be changed and the transfer tray must be adjusted to it. The transfer tray should be adjusted to position a loaded bar concentric with the spindle liner.

1. Use the height adjustment handle to lower the transfer tray in order to insert the appropriate spindle liner into the rear of the spindle.



2. Place a bar in the transfer tray and raise the tray to align the bar to the spindle liner. Visually check alignment.



- 3 Verify that the collet is set for the loaded bar diameter.

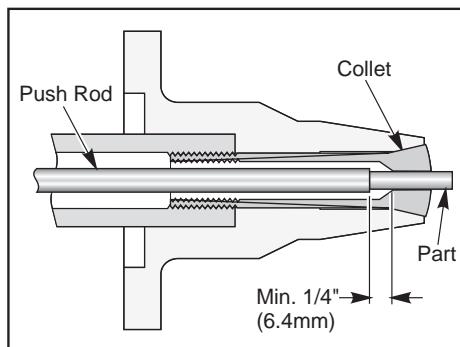
With the collet open and the spindle stopped, slide the bar into the spindle liner and collet by hand and check for any misalignment, binding or interference.

Remove the bar and place it in the charging tray.

Bar Feeder Push Rod Clearance

CAUTION: When pushing a length of material into/through the collet, ensure that the push rod maintains 1/4" (6.4mm) of clearance between it and the bore taper. 1/4" (6.4mm) of clearance is necessary to ensure the push rod does not come in contact with the collet clamping surfaces..

Macro variable #3102 MIN CLAMPING LENGTH should be set to 1/4" (6.4mm) from the collet clamping surfaces.



Charging Tray Height Adjustments

The charging tray holds the supply of bar stock to be loaded onto the transfer tray. An adjustable handle is located underneath the tray and is used to adjust the tray angle. The angle to set the charging tray is determined by the size and number of bars used.

1. Turn the adjustment handle under the charging tray to adjust the feed angle. For most round stock, the angle of the charging should be set to 5° above horizontal.
2. Load the supply of bar stock onto the charging tray. Run G105 Q9 - Load Bar Stock and G105 Q8 - Unload Bar Stock to observe the Bar Feeder operation. Adjust the tray angle as necessary.

Machining Small Diameter Bars (.375"/9.5mm to .75"/19mm)

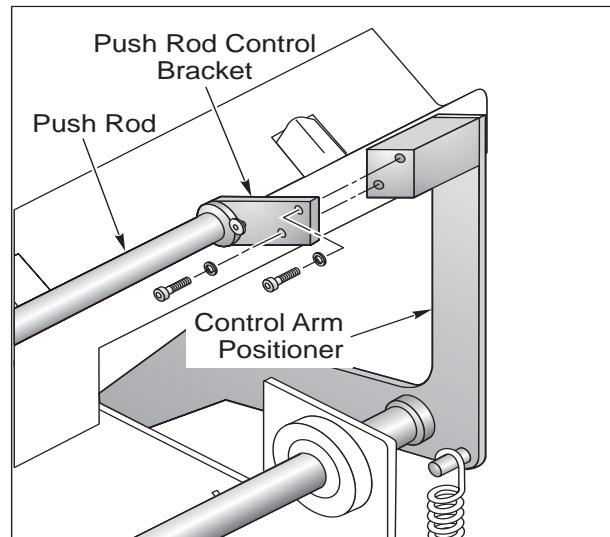
The Bar Feeder comes with two push rods: 3/4" and 3/8". The 3/8" is used for all round stock material less than 0.8" (20mm) in diameter. The 3/4" is used for material 0.8" (20mm) in diameter and larger. Change Parameter 405 V Max Current when changing push rods.

1000 for 3/8" Push Rod; 1729 for 3/4" Push Rod.

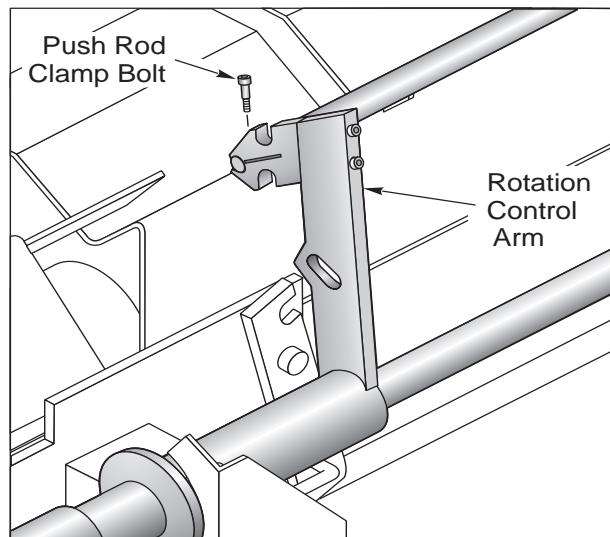
Changing the Push Rod

Push Rod Removal

1. Power down the machine. Loosen the socket head clamp bolt on the rotation control arm.

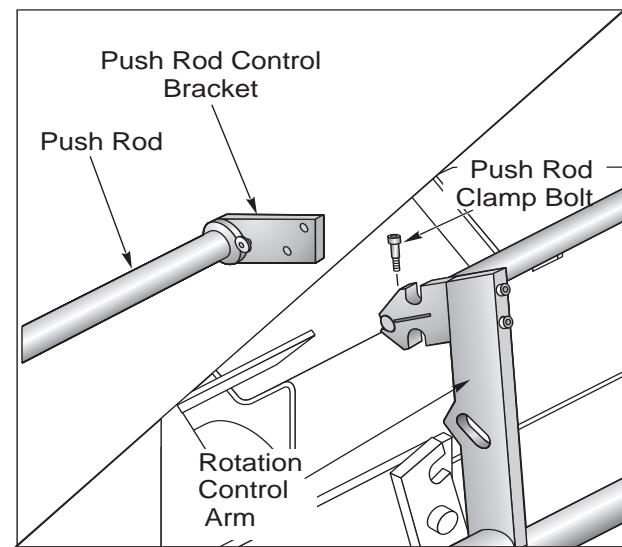


2. Remove the two socket head bolts from the push rod control bracket located on the control arm positioner. Slide the bracket to the right and the push rod to the left until it comes out of the clamp bracket.

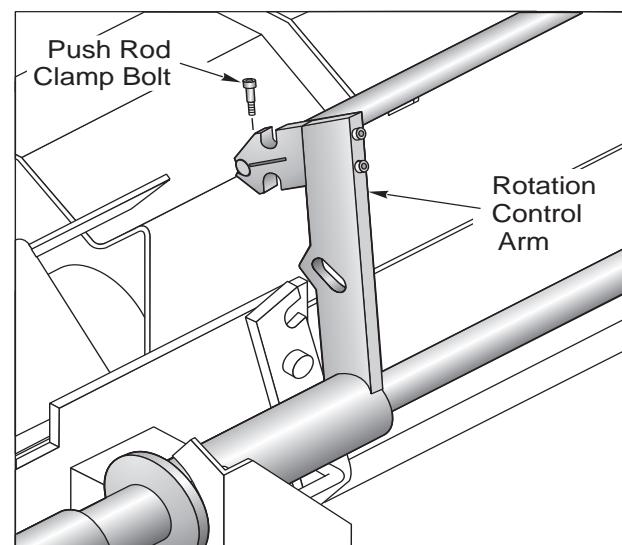


Push Rod Installation

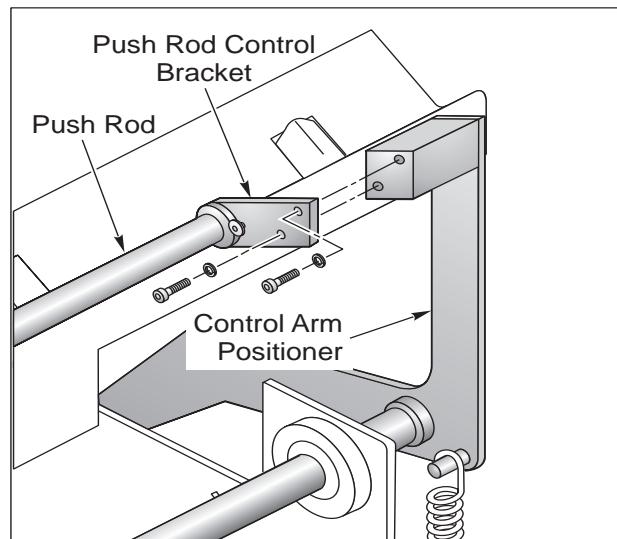
1. Slide the push rod control bracket over the push rod, and slide the push rod into the clamp on the rotation control arm.



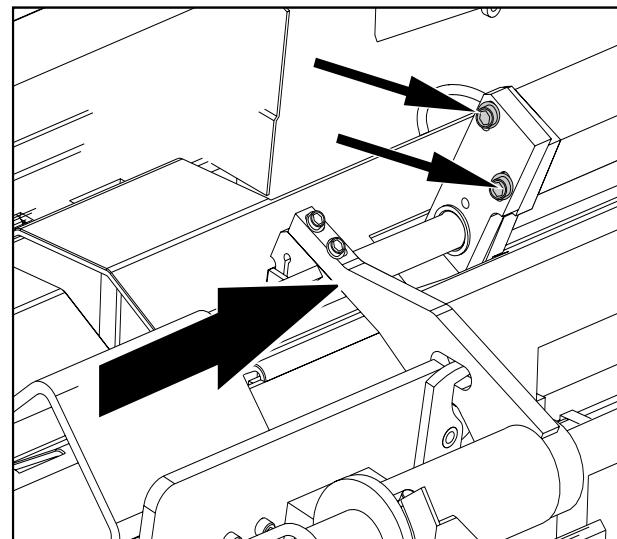
2. Attach the push rod control bracket to the control arm positioner with two socket head bolts; do not tighten.



3. Tighten the clamp bolt on the rotation control arm.



4. Press "V" on the keyboard then the Handle Jog button. Use the jog handle to move the push rod toward the spindle until it is about 2" (51mm) from the control bracket. Center the push rod to the liner and tighten the control bracket bolts.



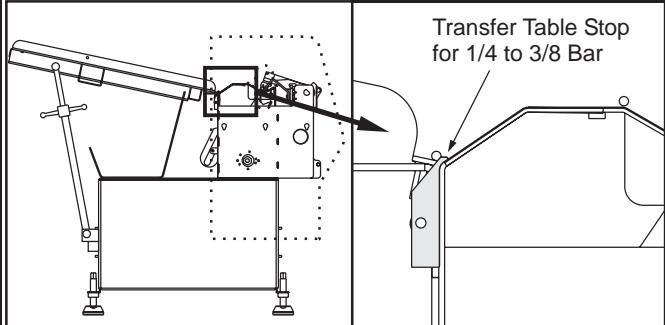
WARNING

**The 3/8" diameter push rod must be retracted from the spindle liner before the spindle is started.
Failure to do so will damage the push rod and spindle liner.**

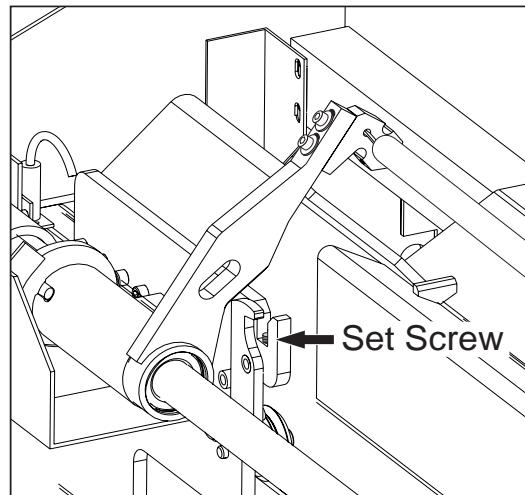
The machine can be programmed to retract the push rod out of the liner after each bar feed by changing the value of macro variable #3113 Min Retract Position. To determine the value, go to MDI mode, enter G105 Q7 - Load Push Rod then press Cycle Start. This will load the push rod. Measure the distance between the end of the push rod and the spindle liner. Subtract a buffer distance (1/2" / 13mm) and enter the remainder in macro variable #3113 on the Bar Feeder Current Commands page. Next in MDI enter G105 Q6 - Unload Push Rod to unload the push rod. As a final check, in MDI enter G105 Q0 - Normal Bar Feed to load the first bar and insure that the push rod retracts to the programmed position.

Push Rod Adjustment (3/8" Push Rod shown)

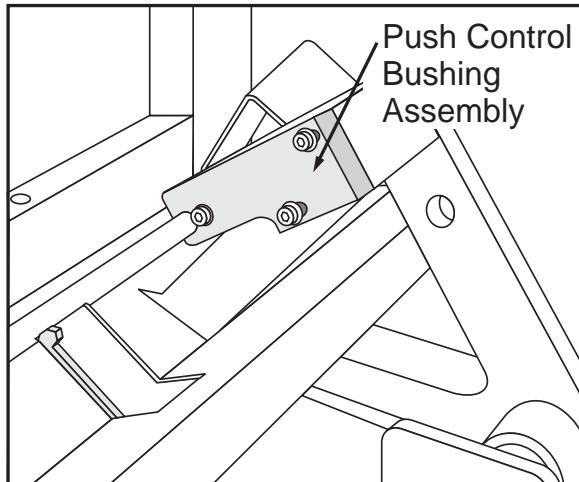
1. Adjust the transfer table to between 10° and 15° of elevation. Place a piece of 3/8" stock approximately 1" (25mm) from the transfer table stop. Allow the rod to roll down the charging table. Raise the transfer table until the rod does not overrun the transfer table stops.



2. Lower the push rod arms and install the push rod connector. The push rod connector should be adjusted flush with the bottom of the pusher nose by raising or lowering the set screw in the push rod carriage.



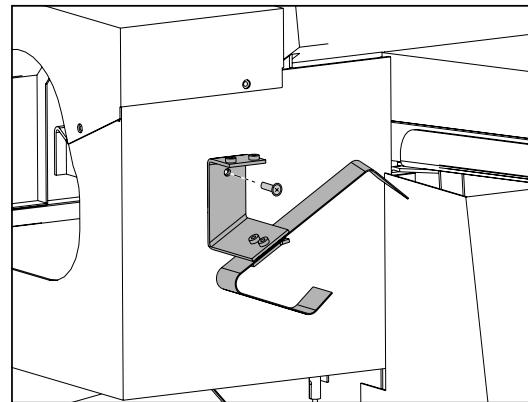
3. Raise or lower the push control bushing assembly to align the push rod parallel with the charging table.



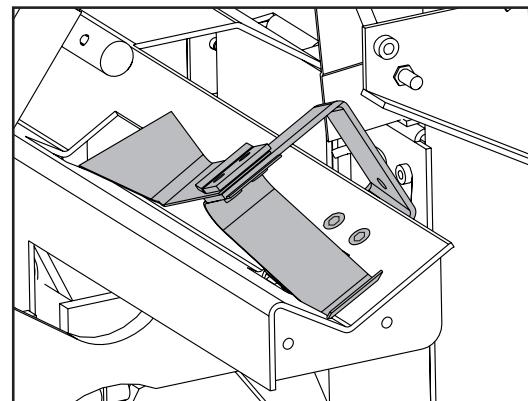
4. Handle jog the push rod up to the back of the spindle and realign the Bar Feeder to the spindle.

5. Return the push rod to the home position.

6. Remove the bar hold down bracket from its storage position on the rear of the Bar Feeder.



7. Install the bar hold down bracket.



Large Bar

To run 3/4" and larger bars, use the 3/4" push rod. The push control 3/4" bushing must be installed and adjusted so that the 3/4" push rod is parallel to the transfer tray.

Reference Position Setup

Press the Current Commands button and press the Page Up or Down buttons to navigate to the screen labeled Bar Feeder 300.

Press the Up or Down arrow keys to highlight the Haas Servo Bar System Variable to edit. Enter the value and press "Write".

#3100 (Part Length + Cutoff): This is the total workpiece length plus the amount that will be removed when the workpiece is "faced".

#3101 (Initial Push Length): The distance the material is pushed past the chuck jaws or the face of the collet.

#3102 (Minimum Clamping Length): The minimum amount of stock to clamp to and safely machine the workpiece.

Example

#3100=2.150 (2.0" long workpiece + .125" cut off width + .025" to face off)

#3101=2.5 (2.5" of stock pushed past face of the collet)

#3102=1.0 (1.0" of material to clamp to. During subsequent bar feeds, the machine will not push the bar farther than is safe to clamp to)

Remove any material from the lathe. Command G105 Q4 - Jog To Reference Position to load a bar and push it toward the face of the collet. Once the machine stops push RESET **once**. The machine will be in HANDLE JOG for the V-Axis. Use the hand wheel and jog the material until the bar is flush with the face of the collet. Close the collet.

Command G105 Q2 - Set Reference Position. The machine will now push the material to the value in Setting #3101 (Initial Push Length). Measure the bar and verify that the machine did push the stock the proper length.

To change jobs, remove all material from the Bar Feeder and lathe, and change the spindle liners. Load the new material in the Bar Feeder tray, and re-enter values for variables 3100, 3101 and 3102.

Bar Feed Recovery

1. Handle jog the V-axis until the bar is up to the reference position. The bar must be in contact with the end of the push rod. In MDI mode enter G105 Q1.- Set Bar Length. This resets the end-of-bar position and pushes the bar out to its initial push out length.

Programming

G Code Description

G105 [In.nnnn] [Jn.nnnn] [Kn.nnnn] [Pnnnnn] [Rn.nnnn]

In.nnnn Optional Initial Push Length (macro variable #3101) Override (variable #3101 if 'I' is not commanded)

Jn.nnnn Optional Part Length + Cutoff (macro variable #3100) Override (variable #3100 if 'J' is not commanded)

Kn.nnnn Optional Min Clamping Length (macro variable #3102) Override (variable #3102 if 'K' is not commanded)

Pnnnnn Optional subprogram

Rn.nnnn Optional spindle orientation for new bar

I,J,K are overrides to macro variable values listed on the Current Commands Page. The control uses override values for the command line they are in only, values stored in the Current Commands Page are not modified.

Under some conditions the system may halt at the end of the bar feed and display the message "Check Bar Position". Verify the current bar position is correct then press Cycle Start to restart the program.

Q Mode Descriptions

Q Mode List

Q0 Normal Bar Feed

Q5 Set EOB Position

Q1 Set Bar Length

Q6 Unload Push Rod

Q2 Set Reference Position

Q7 Load Push Rod

(Q2 Used In Combination With Q4 Only)

Q8 Unload Bar Stock

Q3 Set Alt Reference Position

Q9 Load Bar Stock

Q4 Jog To Reference Position

Q modes are used in MDI mode only and must always be preceded by G105.

G105 or G105 Q0 Normal Bar Feed

Used for commanding bar feeds in MDI mode. See G code description for operation.

G105 Q1 Set Bar Length

Used to reset bar length stored in control. Press "V" on the keyboard then Handle Jog button on the control. Use the jog handle to push the bar up to the reference position set during bar feed position setup. Run G105 Q1 and the current bar length will be recalculated.

NOTE: The push rod must be in contact with the bar when setting bar length. If the bar is pushed out too far, jog the push rod back, push the bar against it by hand then jog it up to the reference point.

G105 Q2 [I] Set Reference Position Then Initial Push

Sets the reference position then unclamps and pushes bar out the distance in Initial Push Length (#3101) or I Value, if on the same line, then reclamps and runs subprogram PXXXXX if specified. **This command can only be used after running G105 Q4.**

NOTE: The push rod must be in contact with the bar when setting reference position. If the bar is pushed out too far the operator can jog the push rod back, push the bar against it by hand then jog it up to the reference point.

The reference position only needs reset if the collet is changed or the Bar Feeder is moved, relative to the lathe. This position is stored with macro variable #3112; save and restore macro variables if software is updated.

G105 Q3 Set Reference Position From Bar Face

Sets the reference position by subtracting macro variable #3100 Part Length + Cutoff from current bar face position then runs subprogram PXXXXX if specified. See G105 Q2 description for other considerations. **This command can only be used after running G105 Q4.**

WARNING

The bar will not move when this command is executed. If executed more than once it will move the reference position farther away from the bar face and possibly out of the clamping area. If the bar is not clamped when the spindle is started severe damage will occur.

G105 Q4 [R] Jog To Reference Position

When executed a new bar is loaded, measured and pushed through the spindle and halted just before the chuck face. Pushing the reset button switches the control to V axis Handle Jog mode and the user can jog the bar to the Reference Position.

G105 Q5 Set EOB Position

Used to set end of bar switch position used in determining bar lengths. This value is stored in macro variable #3111 and only needs to be reset if the macro variable is lost. See "Establish End of Bar Position" section of installation instructions for reset procedure.

G105 Q6 Unload Push Rod

G105 Q7 Load Push Rod

G105 Q8 Unload Bar

Unloads a bar from the transfer tray and places it in the charging tray.

G105 Q9 Load Bar

Loads a bar from the charging tray and places it in the transfer tray.

G105 Q10 Load Bar With Measure

Loads a bar from the charging tray and places it in the transfer tray and measures it. Used to check end of bar switch position. Place a bar of known length in the storage tray. Execute G105 Q10 then compare the value macro variable #3110 from the Bar Feeder Current Commands page to the bar length.

G105 Q11 Bump Load Push Rod Direction

Bumps bar transfer mechanism toward the charging tray. Used for assembly access only.

G105 Q12 Bump Load Bar Direction

Bumps bar transfer mechanism away from the charging tray. Used for assembly access only.

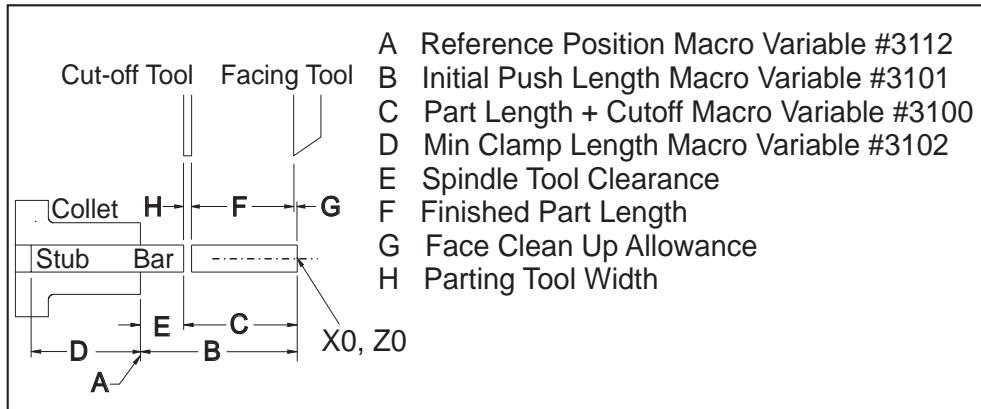
Sample Program

Example 1

The following example uses material that is 2" (51mm) diameter solid stock and the finish part is 1" (25mm) long. The parts are cutoff with a .125" wide parting tool. The spindle tool clearance is .875".

1. Enter 1.125 for macro variable #3100 Part Length + Cutoff + face off
2. Enter 2.0 for macro variable #3101 Initial Push Length.
3. Enter 1.0 for macro variable #3102 Min Clamping Length.
4. Place a bar on the charging tray.
5. In MDI mode enter G105 and press Cycle Start. The machine will load the bar and push it into the lathe and push it out the amount set in variable #3101 (Initial Push Length) then clamp.
6. Set tool offsets.
7. Select program, press Memory mode button then Cycle Start.

```
%  
O00020 (PART OFF AND BAR FEED)  
T404  
G50 S500  
G96 S500 M03  
G00 X2.1 Z0.1 M08  
Z-1.125 (1" PART LENGTH PLUS THE TOOL WIDTH)  
G01 X-0.05 F0.005  
G00 X2.1  
G53 X0  
G53 Z0  
G105  
M30  
%
```



NOTE: Part programs that use a bar feed command at the beginning must be bypassed for the first part run after this procedure. Do not use a PXXXX (part off subprogram) on the same line as the G105 command. It will cause a blank part to be cut off the bar at each bar change.

Example 2

Use this program for reference when doing a double-push on a workpiece. Notice that every time a G105 bar feed is commanded, a different value is used temporarily in place of the permanent variable values below.

Refer to the descriptions for the following variables in this and the lathe operator's manual.
Variable 3100, Variable 3101, Variable 3102, I, J, K.

(I=initial push length J = part length + cutoff K = min clamping length) could be added to the G105 line to make the program function regardless of values stored in macro variables 3101, 3100 and 3102.

Study both G105 callouts on the program for programmed moves. At the start of the first G105 the part should be flush with the collet face.

```
%  
O00021 (DOUBLE PUSH WITH Bar Feeder)  
G105 (BAR FEED USING CONTROL VARIABLES)  
T303 (FACE & TURN)  
M01  
G50 S500  
G96 S500 M03  
G00 G54 X2.1 Z0 M08  
G01 X-0.05 F0.005  
G00 X1.5  
G01 Z-1. F0.01  
X2.1  
G53 G00 X0  
G53 Z0  
G105 J3.125 K2.(BAR FEED WITH OPTIONAL VARIABLES)  
M01  
G00 G55 X2.1 Z0.1 S500 M03  
G01 X1.75 F0.01  
G01 Z-3.  
X2.1  
G00 X4. Z0  
T404 (CUT OFF TOOL)  
G50 S500  
G96 S500 M03  
G00 G55 X2.1 Z0.1 M08  
Z-3.125  
G01 X-0.05 F0.005  
G00 X2.1  
G53 X0  
G53 Z0  
M30  
%
```

Counter

The Bar Feeder can count either the number of bars used, parts made or length of material run. A non-zero value set in Max # Parts (#3103), Max # Bars (#3104), or Max Length to Run (#3105) determines the active counting modes. The first non-zero value will stop the cycle if more than one is present.

To stop the machine after a chosen number of **parts** are made go to the Bar Feeder Current Commands page and set Current Number of Parts Run (#3106) to zero. Then set Max # Parts (#3103) to the chosen quantity. The counter is incremented at each G105 command. If G105 is at the beginning of the program the counter is incremented before the part is finished. If G105 is at the end of the program the counter is incremented after each part is finished.

To stop the machine after a chosen number of **bars** are machined, go to the Bar 300 Current Commands page and set Current Number of Bars Run (#3107) to zero. Then set Max # Bars (#3104) to the chosen quantity. The counter is incremented as each bar is loaded.

To stop the machine after a chosen **length of bar** is machined go to the Bar 300 Current Commands page and set Current Length Run (#3108) to zero. Then set Max Length To Run (#3105) to the chosen length.

NOTE: The counter is incremented by the amount of push out at each G105 command. The amount is either the initial push length (#3101) after a bar is loaded or the part length + cutoff (#3100) at each following bar feed.

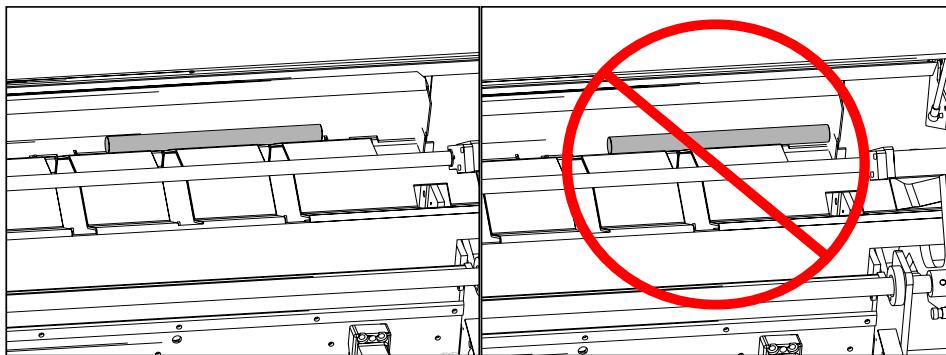
To make the Current Length Run count only material used to make parts, the reference position (#3112) must be set to the position where the end of the bar is after a finished part is cutoff. Then Initial Push Length (#3101) must be set equal to Part Length + Cutoff (#3100).

Machining Short Bars

All bars loaded from the charging tray should be at least 10" (254 mm) long, or a minimum of 2.25 times the distance from the end of the transfer tray to the start of the liner bore, whichever is longer.

When machining short bars the cycle time required to load a new bar can be reduced by changing the value of macro variable #3109 Length Of Longest Bar. To operate properly all of the bars in the charging tray must be pushed against the side closest to the lathe. Add a buffer distance to the length of the longest bar in the tray and enter that value in macro variable #3109 on the Bar Feeder Current Commands page. This will cause the bar load finger to rapid up to the buffer position before slowing down to measure the bar length.

When loading short bars on the charging tray make sure the bar will be picked up by at least two of the pick arms or the bar may not load properly.



Using the Bar 300 as a Stop

The Bar Feeder can be used as a hard stop, ensuring all parts are started at the same point. The following is an example using the Bar 300 as a stop. Once the push rod moves into position, there is a pause in the program to allow the operator to open the chuck and load the workpiece against the push rod. Do not load the workpiece until after the initial move of the Bar Feeder.

Example Program

```
%  
O00022 (USE THE Bar Feeder AS A STOP)  
G105 Q7 (LOAD PUSH ROD)  
G160 (ALLOW THE USE OF THE "V"AXIS)  
G00 V-20. (POSITION THE PUSH ROD)  
M00 (LOAD THE PART)  
G00 V-19.(BACK OFF THE PUSH ROD SO IT DOES NOT RUB THE PART)  
G161 (DISABLE THE "V" AXIS)  
(RUN PROGRAM HERE)  
M30
```

Macro Variables

#3100 PART LENGTH + CUTOFF Bar feed increment (Length of bar pushed out each G105 after bar is loaded). Finished part length + cutoff length + face cleanup allowance.

#3101 INITIAL PUSH LENGTH Initial bar feed length (Length of a bar pushed out, past reference position, when loaded).

#3102 MIN CLAMPING LENGTH Minimum length for clamping (Length of bar required to support length pushed past the collet face).

#3103 MAX # PARTS Maximum number of parts.

#3104 MAX # BARS Maximum number of bars.

#3105 MAX LENGTH TO RUN Maximum length to run.

#3106 CURRENT # PARTS RUN Part counter.

#3107 CURRENT # BARS RUN Bar counter.

#3108 CURRENT LENGTH RUN Length counter.

#3109 LENGTH OF LONGEST BAR Length of the longest bar (set to 48 if unknown). Setting the length close to the size of the bar stock allows faster measurement of shorter bars. This length must be longer than the bar stock being used.

#3113 MIN RETRACT POSITION. Adjust this to make sure the push rod retracts out of the spindle liner after each G105 push. Jog the V-Axis until there is a safe gap between the end of the push rod and the spindle liner (approximately 1 inch/25 mm). Look at your V-Axis position, it will be a negative number (example: -13.0). Enter this number, as a positive value under #3113 (example: #3113=13.0).

Read Only

#3110 CURRENT BAR LENGTH Current bar length measure by the machine.

Internal Only

#3112 REFERENCE POSITION Established using G105 Q4 Jog To Reference Position

Bar Feeder Compatibility

ST / DS Models Bar Feeder Compatibility

Haas Lathe	Bar Feeder
ST-10 / ST-10Y	BAR1006ST
ST-20 / ST-20Y	BAR2008ST
ST-20SS / ST-20SSY	BAR2008ST
ST-20 / ST-20Y with BB-20 2.5" (64mm) Bar Capacity Option	BAR2010ST
ST-30 / ST-30Y	BAR3010ST
ST-30SS / ST-30SSY	BAR3010SS
ST-30 / ST-30Y with BB 4" (102mm) Bar Capacity Option	BAR3012ST
DS-30 / DS-30Y	BAR2008ST
DS-30SS / DS-30SSY	BAR2008ST
DS-30 / DS-30Y with DS-3B 3" (76mm) Bar Capacity Option	BAR3010SS
DS-30SS / DS-30SSY with DS-3BSS 3" (76 mm) Bar Capacity Option	BAR3010SS

Notes:

There are no available Bar Feeders for the following lathes:
OL-1, ST-40, ST-40L and all Toolroom Lathes

A Bar Feeder interface is included with all new Bar Feeders.

93-BBIH – Haas Bar Feeder interface is available through the Parts Department. Kit may vary depending on current machine software.

93-BIA – Non-Haas Bar Feeder interface is available through the Parts Department. Kit may vary depending on current machine software.

Chuck upgrades do not change Bar Feeder compatibility.

GT / SL / TL (Subspindle) Models Bar Feeder Compatibility

LATHE	Replaced Bar Feeder (Obsolete Part Number)	New Bar Feeder and Additional Parts
GT-10	BARGT05B	BAR1006ST <ul style="list-style-type: none"> • Alignment Plate (25-1026A) • LINERGT-10 KIT (1 each) • UDK5 LINER DISK KIT (1 each). • Casting Level Pad (14-2462) 4 each
SL-10	BAR1006B	BAR1006ST <ul style="list-style-type: none"> • Casting Level Pad (14-2462) 4 each
SL-10BB GT-20	BAR1008B	BAR2008ST <ul style="list-style-type: none"> • Alignment Plate (25-1026A) • Casting Level Pad (14-2462) 4 each
SL-20 / TL-15 7K RPM Option	BAR2005B	BAR2008ST <ul style="list-style-type: none"> • Alignment Plate (25-6516B) • LINER5 KIT (1 each) • OPTUDK5 LINER DISK KIT (1 each) • Casting Level Pad (14-2462) 4 each
SL-20 / TL-15	BAR2008B	BAR2008ST <ul style="list-style-type: none"> • Alignment Plate (25-6516B) • Casting Level Pad (14-2462) 4 each
SL-20BB / TL-15BB 2" Bar Capacity	BAR2010B	BAR2010ST <ul style="list-style-type: none"> • Alignment Plate (25-6516B) • Casting Level Pad (14-2462) 4 each
SL-30 / TL-25	BAR3010B	BAR3010ST <ul style="list-style-type: none"> • Alignment Plate (25-6516B) • Casting Level Pad (14-2462) 4 each
SL-30GB / TL-25GB	BAR3010GB	BAR3010ST <ul style="list-style-type: none"> • Alignment Plate (25-6516B) • Casting Level Pad (14-2462) 4 each
SL-30BB / TL-25BB 4" Bar Capacity	BAR3015B	BAR3012ST <ul style="list-style-type: none"> • Alignment Plate (25-6516B) • Casting Level Pad (14-2462) 4 each
SL-40	BAR4015B	No Model Available

Compatibility Notes

- Previous generation Bar Feeder models can be retrofitted to a new lathe model.

List of Bar Feeders that can be modified:

BARGT05B **BAR1006B** **BAR1008B** **BAR2005B** **BAR2008B**
BAR2010B **BAR3010B** **BAR3015B** **BAR4015B.**

The previous Bar Feeder models can be modified to fit these lathes:

ST-10, ST-10Y, ST-20, ST-20SS, ST-20Y, ST-20SSY, ST-30, ST-30SS, ST-30Y, ST-30SSY, DS-30, DS-30SS, DS-30Y AND DS-30SSY

- Chuck upgrades do not change Bar Feeder compatibility.
 - Brush Bar Feeders are not supported on machines with Coldfire processors or newer (e.g. MAINCON).
 - 93-BBIH brushless Bar Feeder interface kits must be ordered through the Parts Department. The kit will vary based on machine software and hardware. Requires software version 4.26 or later. The lathe must be built after January 2000.
 - The following conversion kits must be installed so that previous generation brushless Bar Feeders will work with current lathes.

ST-10, ST-10Y 30-5816

ST-20, ST-20SS 30-5817

ST-20Y, ST-20SSY

ST-30*, ST-30SS 30-5818

ST-30Y*, ST-30SSY

DS-30, DS-30Y, DS-30SS, DS-30SSY

*ST-30 with gearbox requires BAR3010ST and ST-30 with Big Bore option requires BAR3012ST.

Contact the Parts Department for pricing and availability

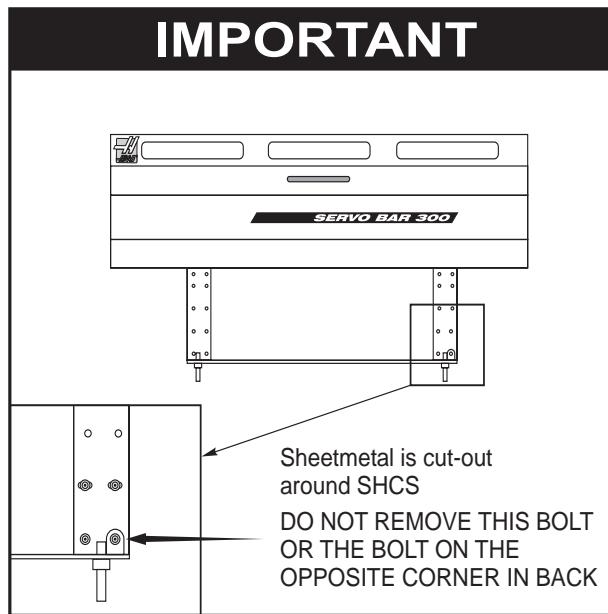
Parts availability is not guaranteed.

Bar Feeder Height Adjustment

Note: The Bar Feeder is shipped in only one of two height configurations to match the models indicated. ST-10, ST-20 Series, ST-30, DS-30 Series.

Important

Use one of the three following methods to adjust Bar Feeder height. Be aware that the Bar Feeder weighs 1300 lb (590 kg) and all necessary precautions should be taken into consideration to safely change the height of the Bar Feeder. For example, lifting straps should be able to adequately carry the weight of the Bar Feeder. Forks of the forklift should be long enough to reach under the rear tray of the Bar Feeder.

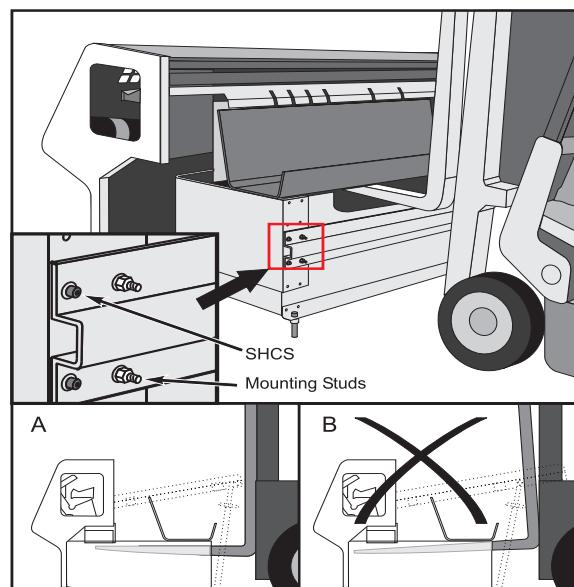


Support the weight of the Bar Feeder with the forklift or cables. Remove all the SHCS at each corner of the base, except for the lower outside bolts on the front legs.

Raise the Bar Feeder to the desired height, and replace the bolts (see the following illustrations). Note that the studs on the rear of the Bar Feeder are to fasten the base and rear support bracket together. These are not to be removed.

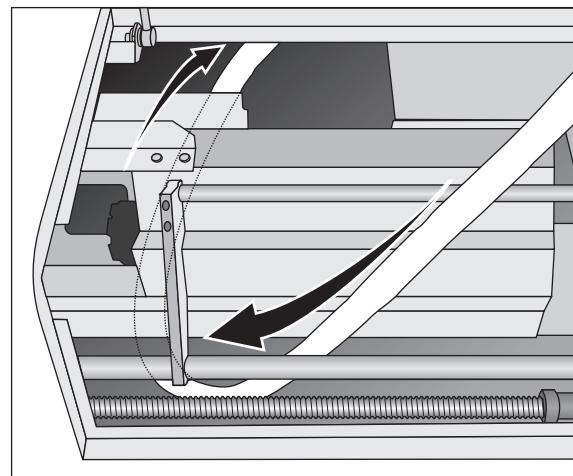
Method 1: Height Adjustment - Forklift

1. From the back of the Bar Feeder, position the forks under the bar feeding mechanism. Be careful not to lift from the storage tray, see the following picture. Look through the end sheet metal to properly position the forks. Caution: Damage to the front sheet metal will occur if the forks are inserted too far.

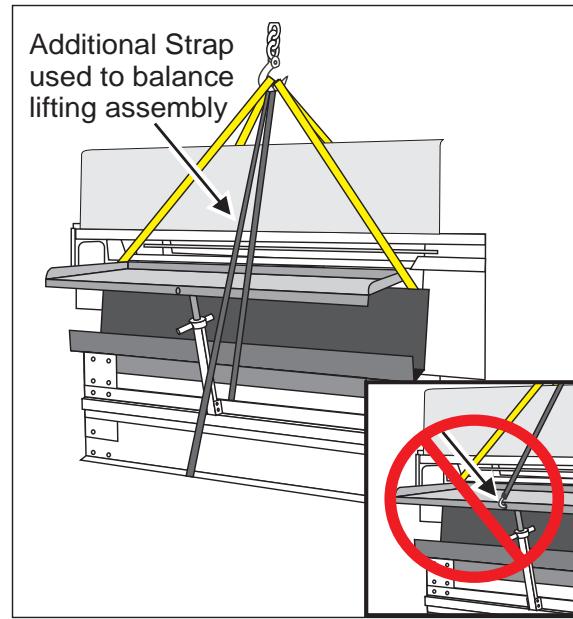


Method 2: Height Adjustment - Lifting Straps

1. Carefully route the lifting straps under the Bar Feeder. Use caution and keep straps away from any sheet metal edges.



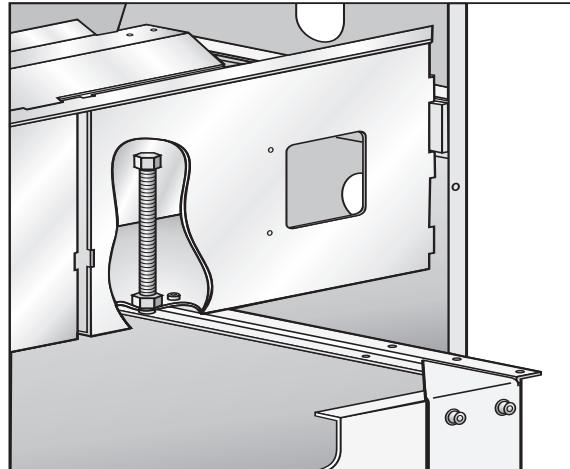
2. If a third strap is required for balance, wrap around the base assembly. Do not attach the strap to the charging tray.



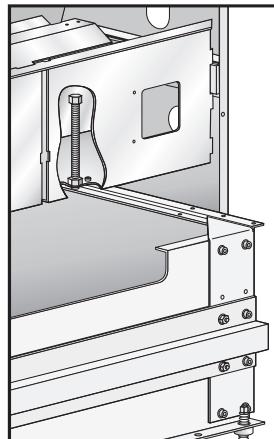
Method 3: Height Adjustment - Jack Screws

Note: Jack screws are not shipped with the machine. You may purchase the Haas lifting kit P/N 93-0535, or purchase these parts at a local industrial supply house. The bolt dimensions are 3/4 - 10 x 10" long, and the spacer is 5" long x 1" diameter.

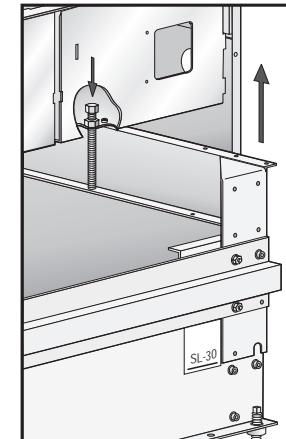
1. Thread the jack screws into the nut. Remove Bar Feeder height adjustment bolts and nuts. Start tightening the jack screws. As both screws cannot be tightened simultaneously (unless two people are working on it), the jack screw may become difficult to turn before the proper height is reached, move to the other side and tighten the other jack screw.



- 2 The length of the jack screw only allows the Bar Feeder to be raised one position at a time, for example ST/SL-20 to ST/SL-30 position. In order to raise the Bar Feeder (ST/SL-20) to SL-40 position, an additional spacer must be used (see illustration).

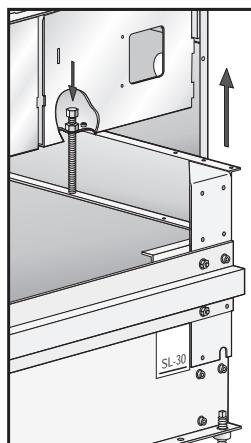


SL-20

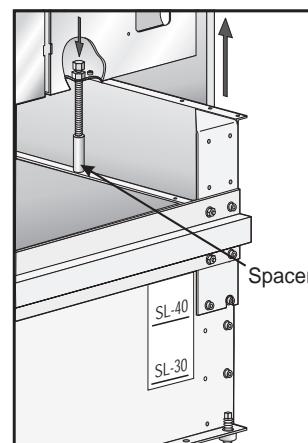


SL-30

3. In order to achieve the SL-40 height, the Bar Feeder must be raised to the ST/SL-30 position and secured at this position with the nuts and bolts. Then loosen the jack screw, insert the spacer and tighten to take the weight off of the nuts and bolts. Remove the nuts and bolts and tighten the jack screws to reach the SL-40 height. Secure the Bar Feeder at this height with the nuts and bolts.

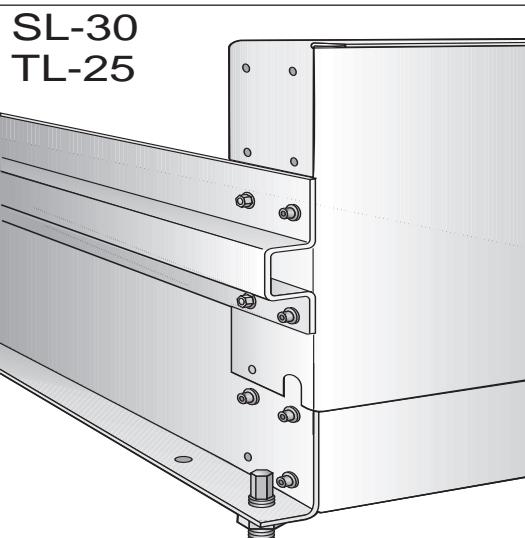


SL-30

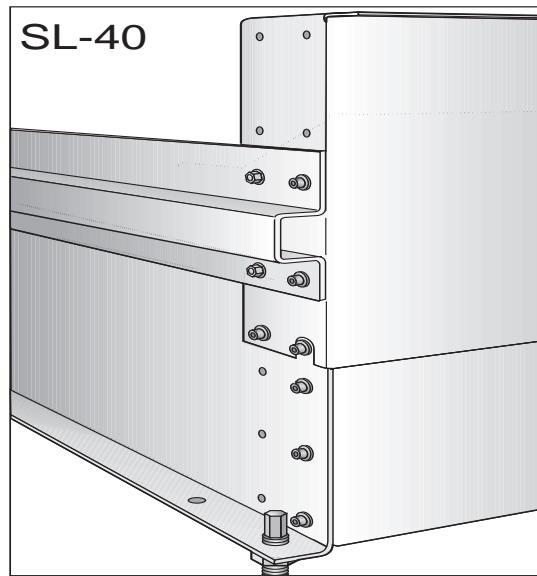


SL-40

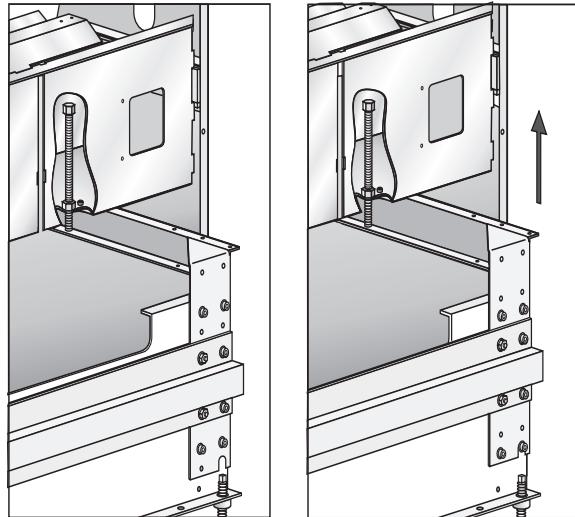
4. Position the height of the Bar Feeder here for the following machines: SL-30 and TL-25.



- 5 Position the Bar Feeder as shown in the illustration for the following machines: SL-40.

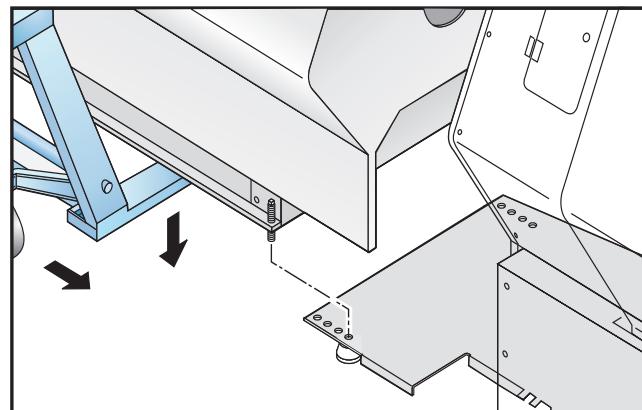
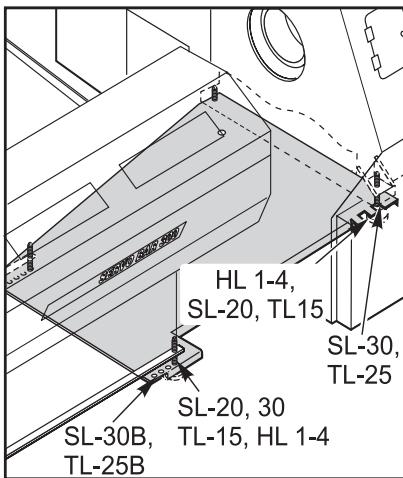
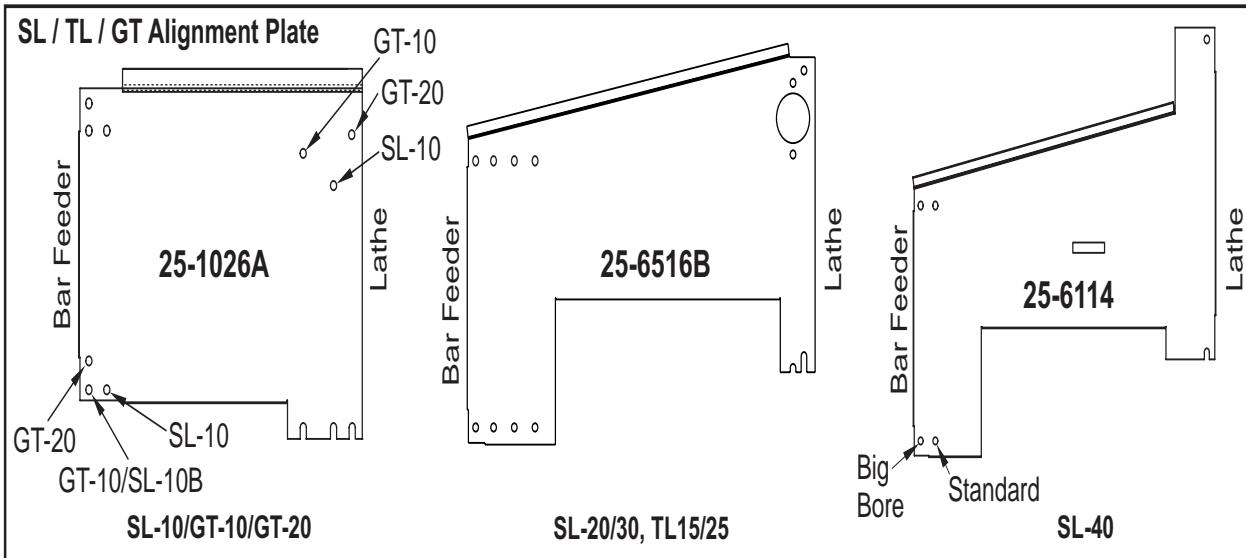


6. Position the Bar Feeder as shown in the illustration for the following machines: GT-10 and GT-20.



SL Models - Lathe Positioning

Lathes - Loosen the left rear leveling screw of the lathe until it is 1/2" above the leveling pad. Position the appropriate slot of the alignment plate around the front left leveling screw of the lathe. Rotate the alignment plate around the front left screw until the appropriate rear alignment plate hole is aligned under the left rear leveling screw of the lathe. Tighten the left rear leveling screw of the lathe against its leveling pad.

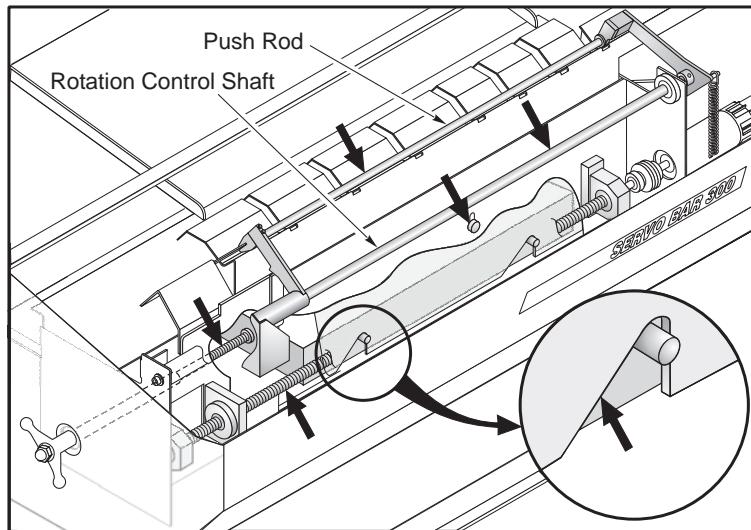


Maintenance

POWER OFF machine before performing any maintenance or service tasks.

To ensure proper operation, the rotation control shaft and push rod require regular lubrication. Lubricate the rotation control shaft approximately once a month (or whenever it is dry) and the push rod during installation (or whenever it is dry).

- Grease the bar feed "V" roller tracks, ballscrew, and rotation control shaft on a regular basis.
- Push Rod Lubrication. Grease the bar feed push rod and bushing frequently to assure smooth operation. Jog the push rod back and forth to spread the grease. A 3/8" push rod should be lubricated frequently. It is easily bent if binding occurs.

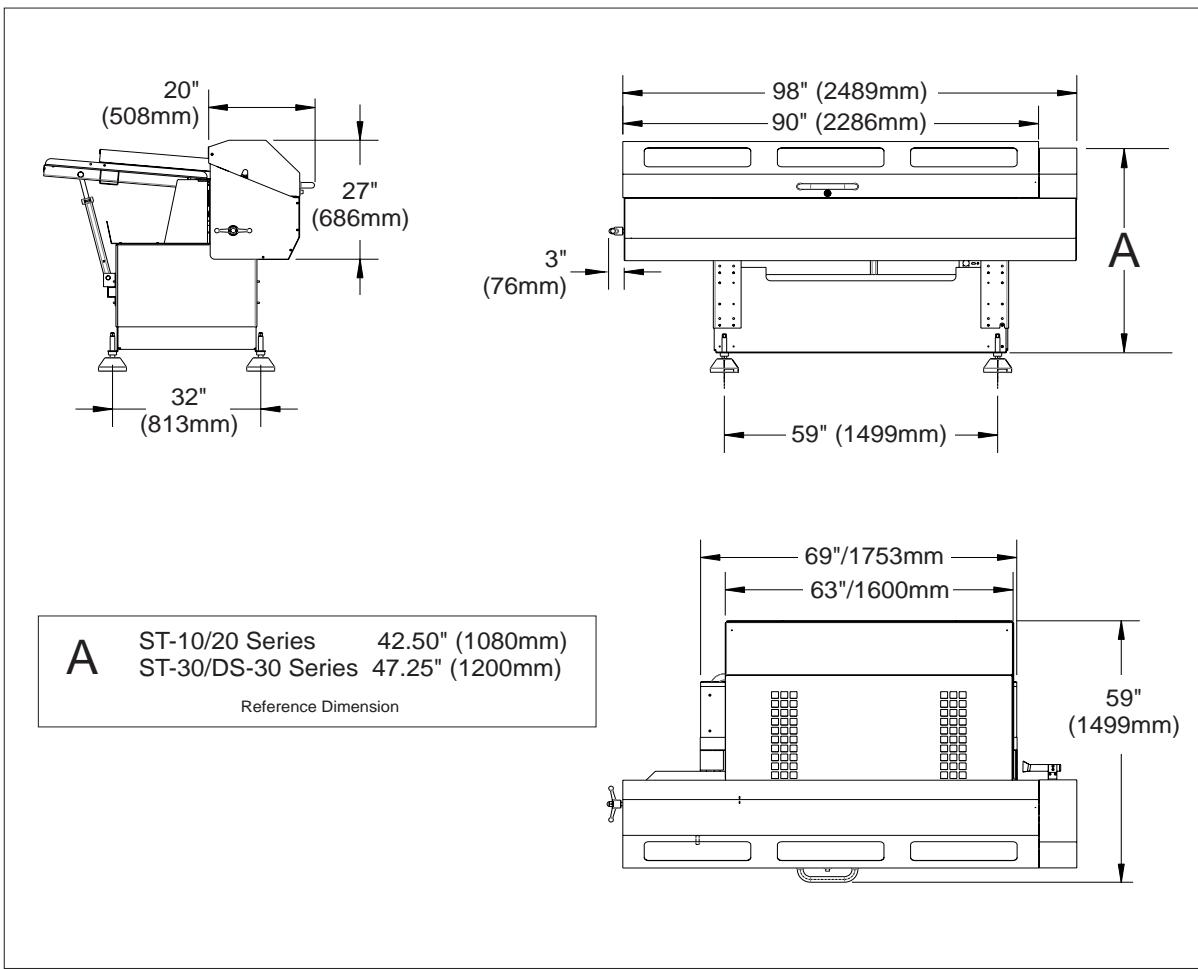


Lubricate points as shown when servicing Bar Feeder

- Clean the transfer tray. Do not allow buildup of debris.
- Clean the lathe rotating union coolant collector of debris regularly.
- Check for obstructions in the bar path after any mishap.

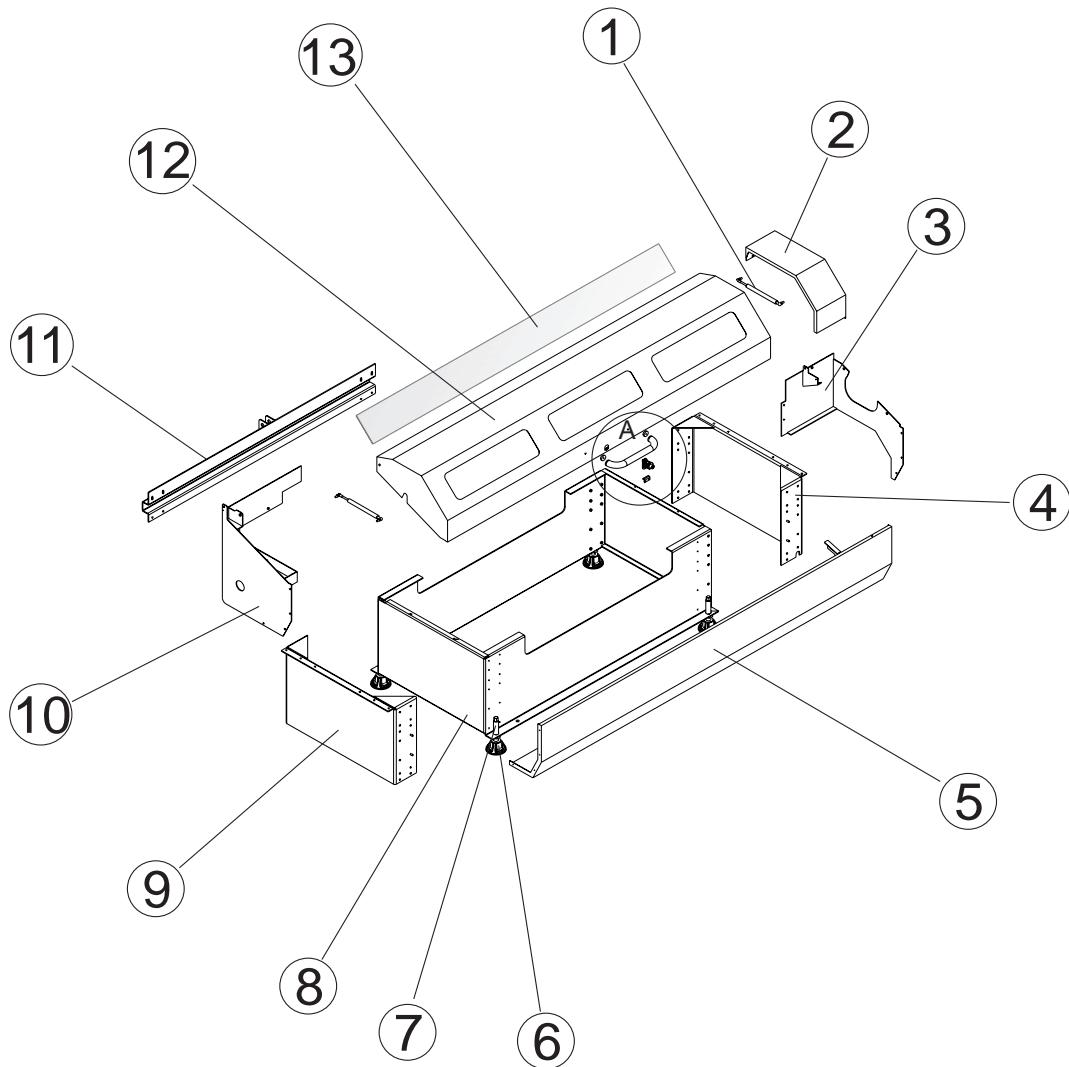
Haas Technical Publications
Installation, Application and Operator's Manual

Bar Feeder External Dimensions

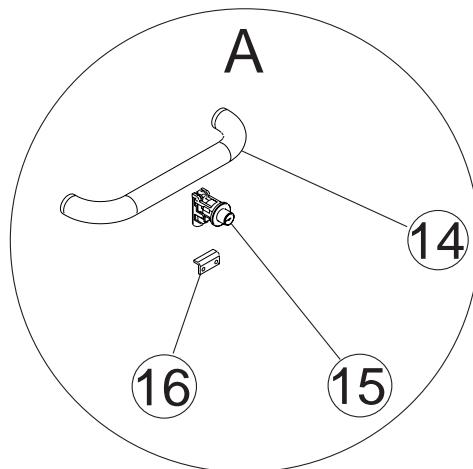


Bar Feeder Parts List

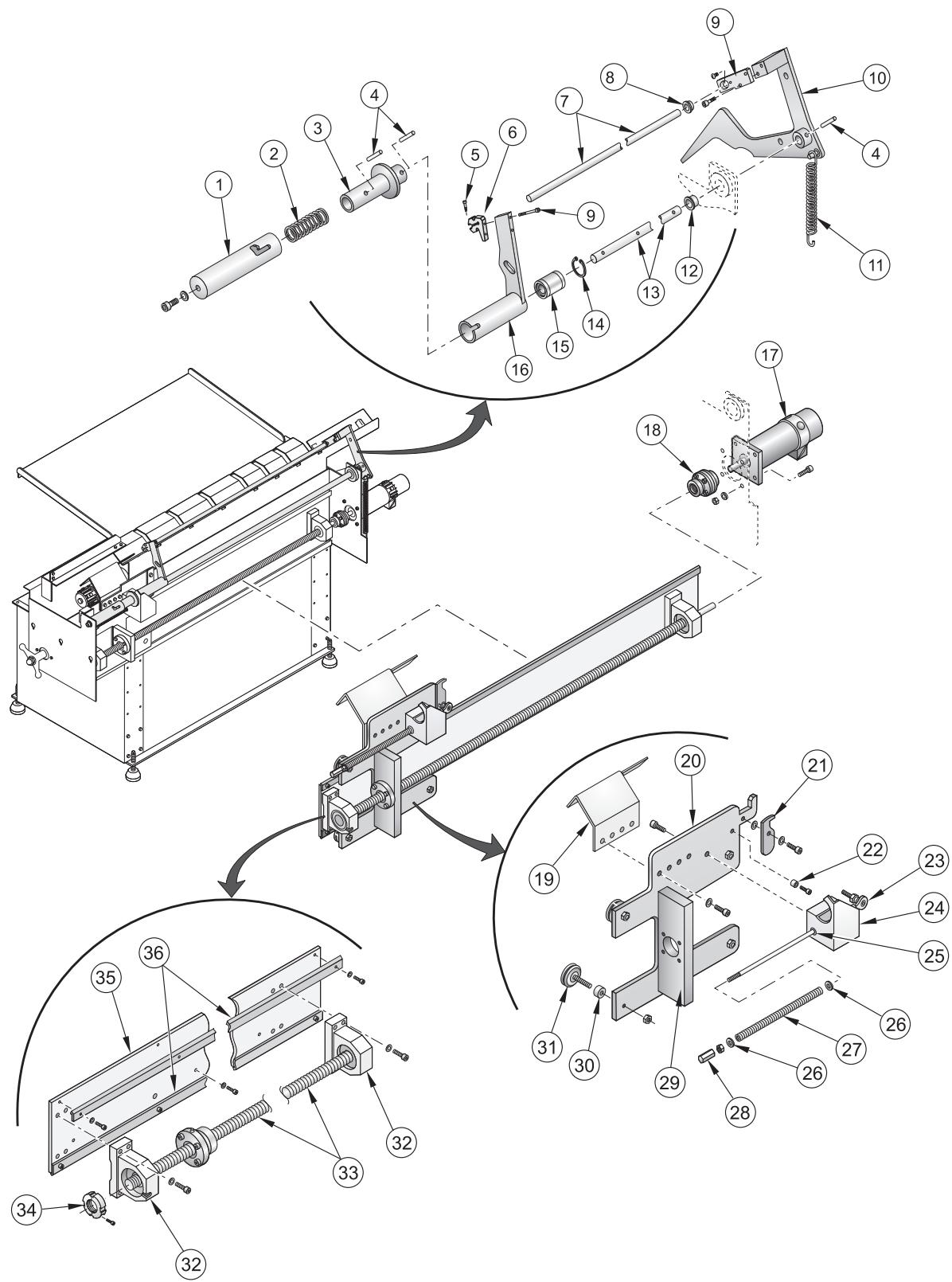
Bar Feeder Sheetmetal



1	59-0007A	Gas Spring 40lbs
2	25-1538	Right End Enc Panel
3	25-1537A	Right End Hinge Assy.
4	25-6538C	Adjusting End Support
5	25-1536A	Main Enclosure Bottom
6	14-2462	Casting Level Pad, Mid
7	44-0018	SSS 1-14 x 5 Round Point
8	25-6539C	Base Bottom Bar Feeder
9	25-6538C	Adjusting End Support
10	25-5796A	Left End Hinge Assy
11	25-6540A	Beam Charging Table Support
12	25-1535	Door Top Cover
13	28-0164	Bar 300 Window
14	22-8895	Handle, Door, Chrome
15	59-1046	Latch Lock
16	25-9111	Cam Catch



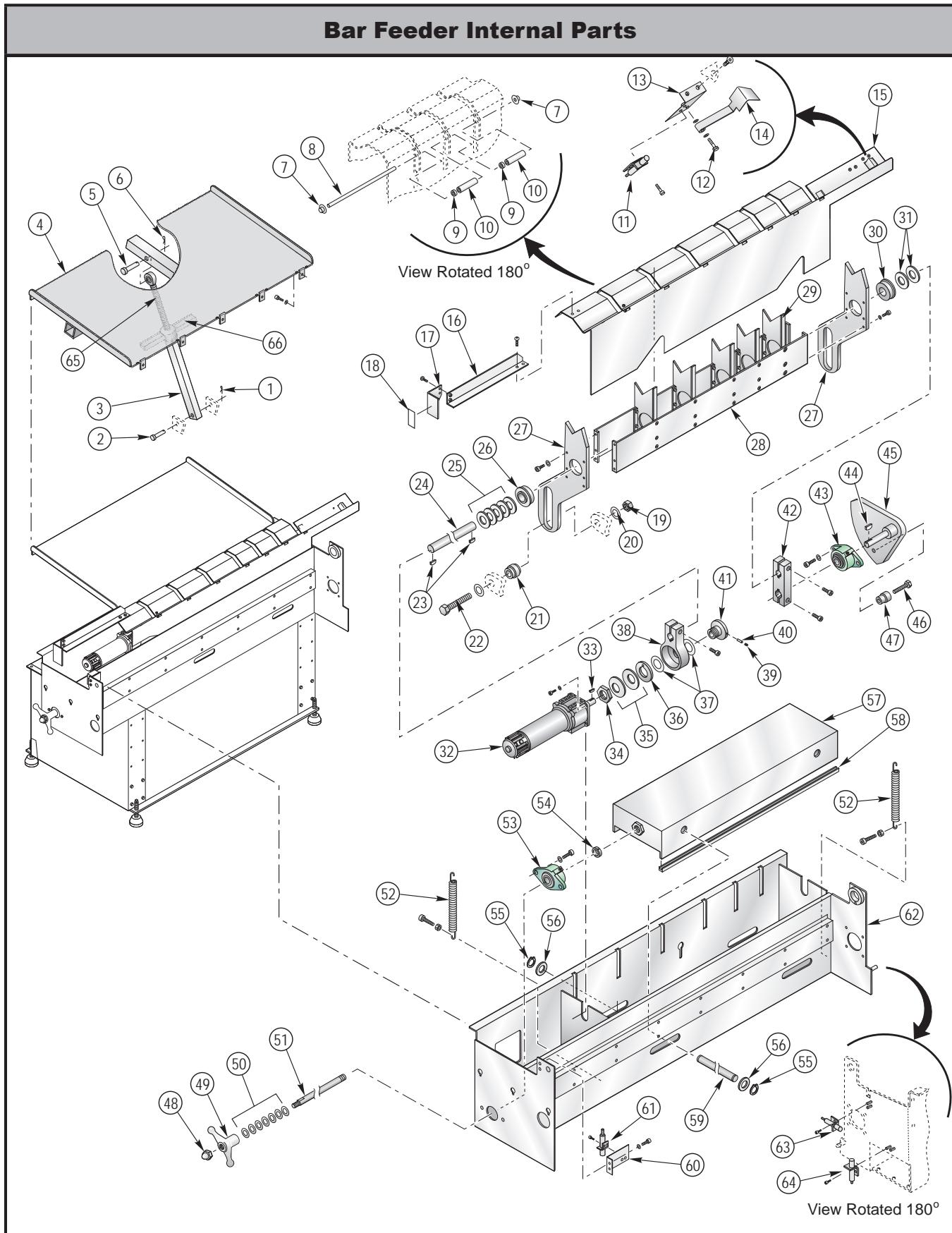
Bar Feeder External Parts



Bar Feeder External Parts List

1. 20-6480 Rotation Control Push Rod
2. 59-3024 Spring 1.5 X 6
3. 20-6481 J-Slot Control Bushing
4. 48-1657 Dowel Pin 5/8 X 1-1/2
5. 49-1015 Shoulder Bolt 1/4 X 1/2
6. 20-1033 Clamp Push Rod End
7. 20-6484 Push Rod
8. 20-0356 Flange Bushing 1 in.
9. 20-1921 Push Control Bushing 3/4 in.
10. 20-6485 Control Arm Positioner
11. 59-3026 Spring 1-1/8 X 8.5 X .148
12. 20-0356 Flange Bushing 1 in.
13. 20-6023B Rotational Control Shaft
14. 56-0007 Retaining Ring 1-9/16 in.
15. 51- 1016 Linear Bearing 1 in.
16. 20-6482 Pusher Control Arm
17. 62-2508 Servo Motor
18. 30-6767 Coupling Assembly
19. 25-6520A Bar Pusher Nose
20. 22-6501 Base Bar Carriage
21. 25-6521 Latch Pusher Bar
22. 22-9256 Bushing Extractor
23. 59-6701 5/16 Ball Joint w/Stud
24. 25-6522 Fork Activator Bar
25. 22-6502 Latch Linkage Rod Bar
26. 54-0054 Flange Bushing 5/16 in.
27. 59-3027 Spring 1/2 X 10
28. 58-1750 Coupling Nut 5/16-24
29. 20-6478A Ballscrew Bearing
30. 22-9256 Bushing Extractor
31. 54-0030 Guide Wheel
32. 30-0153 Support Bearing Assembly (2)
33. 24-0007A Ballscrew Assembly
34. 51-2012 Bearing Locknut TCN-04-F
35. 25-6525 Rail Mounting Plate
36. 22-6505 Bar Feeder V-Rail

Bar Feeder Internal Parts



Bar Feeder Internal Parts List

1. 49-1203	1/8 x 1 Cotter pin	36. 55-0010	Spring washer
2. 49-1201	3/4 x 3 Clevis pin	36. 22-7477	Pressure plate
3. 20-3886	Support stand	37. 45-2020	Plastic washer
4. 25-6541	Charging table	38. 20-6486	Motor end clutch linkage
5. 49-1202	1 x 6 Clevis pin	39. 44-1624	Set screw
6. 49-1203	1/8 x 1 Cotter pin	40. 48-0005	Dowel pin
7. 46-0011	1/4 Push cap nut	41. 20-0215A	Slip clutch hub
8. 20-0341	Transfer table	42. 20-6533	Cam end slip linkage
9. 22-9256	Bushing extractor	43. 51-1015	3/4 Flange bearing
10. 58-1982	Hose urethane 3/8 OD x 1/4 ID (APL)	44. 49-0100	Key
11. 32-2213	Limit switch (end of bar)	45. 20-6488	Cam shaft assembly
12. 49-1019	Shoulder bolt 1/4 x 1	46. 43-7000	Bolt
13. 25-6528B	Bar end mounting	47. 54-0010	Cam follower
14. 25-6529C	Bar end switch paddle	48. 46-0010	3/4-10 Cap nut
15. 25-6527E	Bar transfer table	49. 59-0102	Clamp handle 3/4-10
16. 25-6546A	Height indicator support bracket	50. 45-0004	3/4 Flat washer
17. 25-6547	Height indicator flag	51. 20-6026C	Height adjusting
18. 29-0051	Height gauge decal	52. 59-0110	Spring 6 x 27/32 x .106
19. 46-1702	Nut	53. 51-1015	Flange bearing 3/4
20. 45-1739	Washer	54. 54-0057	Shaft collar 3/4
21. 54-0010	Cam follower	55. 56-0085	Snap ring
22. 43-7000	Bolt	56. 45-0013	Washer
23. 49-0101	Key	57. 25-6549A	Height adjusting box
24. 20-6487	Lifting arm shaft	58. 59-7200	Grommet material .125
25. 45-0013	Washer	59. 20-6490A	Box cross rollers
26. 51-1017	Bearing	60. 25-0338	Home switch bracket
27. 25-6530A	Motion control lift arm	61. 32-2142	Home Switch
28. 25-6532	Motion control torque box	62. 30-0802A	Main frame
29. 25-6531	Motion control intermediate arm	63. 32-2212	Load Q limit switch
30. 51-1017	Bearing	64. 32-2211	Load bar limit switch
31. 22-7477	Pressure plate	65. 22-6025	1" Acme adjusting screw
32. 32-0011	Shuttle motor assembly	66. 49-1020	Acme wing nut 1-5
33. 49-0100	Key		
34. 20-0216	Slip clutch nut		

Haas Technical Publications
Installation, Application and Operator's Manual

Bar Feeder Detail Parts List

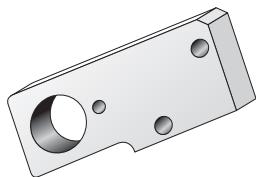
30-1389 – 3/8" Push rod

30-0804 – 3/4" Push rod

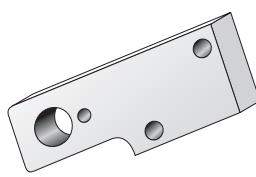
CURRENT



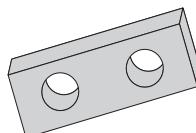
20-1033 Push Rod End Clamp



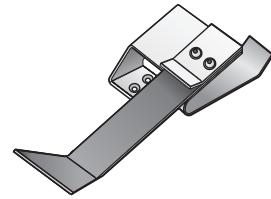
20-1034 Push Rod Control Bushing Holder 3/4"



20-1035 Push Rod Control Bushing Holder 3/8"

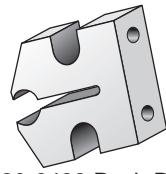


20-1923 Spacer

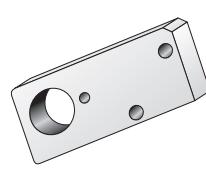


30-1336 Switch Hold Down Assembly

PREVIOUS



20-6483 Push Rod Connector Adapter



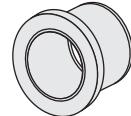
20-6032 Push Rod Control Bushing Holder 3/4"



20-6044 Push Rod Control Bushing Holder 3/8"



51-0055
Nylon Flange
Bearing 3/8"



20-1046
Push Shaft
Bushing 3/4"

