



# Vector Drive - 20 HP and 40 HP - Replacement

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## Vector Drive - 20 HP and 40 HP - Replacement - Introduction

This procedure tells you how to replace a 20 hp or a 40 hp vector drive.



1



2




3

Haas machines have one of these vector drive types:

1. **Type 1:** Smart vector drive, with front cover (current style)
2. **Type 2:** Smart vector drive, without front cover
3. **Type 3:** Classic vector drive


All of the replacement vector drives look like **Type 1**. The procedure varies depending on which type is currently installed.

 **Caution:** When you do maintenance or repair on CNC machines and their components, you must always follow basic safety precautions. This decreases the risk of injury and mechanical damage.


Do these steps before you do work in the machine or in the control cabinet:

- Set the main circuit breaker to the **[OFF]** position.
- Use an approved lock with an approved safety tag. Always follow lock-out procedures in accordance to local government rules.
- After turning off the machine, wait at least 5 minutes before working in the control cabinet, to allow power to dissipate. Wait for the voltage indicator LED on the vector drive to go off completely.
- Always turn off the main air supply when you work on any part of the pneumatic system.
- Make sure to rest the spindle head on a block of wood when work is done on a vertical axis. This will prevent any unintended movement that could result in the axis falling.
- Never alter any safety circuits on the machine.

You should not do machine repair or service procedures unless you are qualified and knowledgeable about the processes. Serious damage to the machine components can result in costly repairs. The service technicians at your Haas Factory Outlet (HFO) have the training and experience, and are certified to do these tasks safely and correctly. The repair and service work performed by your HFO is protected with a limited warranty.

 **Danger:** Some service procedures can be dangerous or life-threatening. DO NOT attempt a procedure that you do not fully understand. If you have any doubts about doing a procedure contact your Haas Factory Outlet (HFO) and schedule a service visit.

### Prerequisites

 **Caution:** Make sure you correct the root cause of the vector drive failure before you power on the new vector drive. Failure to correct the root cause of the vector drive failure can cause the new vector drive to fail. Refer to the [Haas Vector Drive Troubleshooting Guide](#).

### Parts Included

KIT PN: 93-32-5559A, VECTOR DRIVE, 20HP SMART or KIT PN: 93-5558B, VECTOR DRIVE, 40HP SMART. QTY: 1



**[A]** 32-5559A QTY: 1  
20HP VECTOR DRIVE ASSY 20HP  
DRIVE W/HE



**[A]** 32-5558B QTY: 1  
40HP VECTOR DRIVE ASSY 40HP  
DRIVE W/HE



**[B]** 33-0969B QTY: 1  
CABLE, 77/78/79 TRANSFORMER TO  
VECTOR DRIVE



**[C]** 33-4043 QTY: 1  
CABLE, 970 VECTOR DRIVE OVER  
VOLT 3.5 FT


## Vector Drive - 20 HP and 40 HP - Replacement

### STEP 1

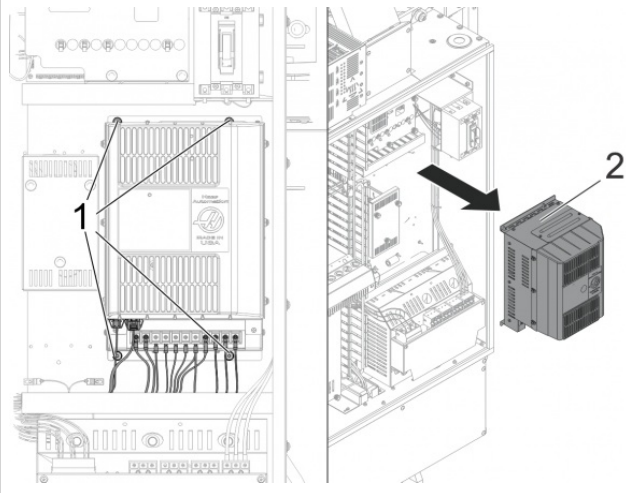


Push **[POWER OFF]**.

Set the main circuit breaker to the **[OFF]** position. Lock the main circuit breaker.

 **Danger:** After turning off the machine, wait at least 5 minutes before working in the control cabinet, to allow power to dissipate. Wait for the voltage indicator LED on the vector drive to go off completely.

## STEP 2



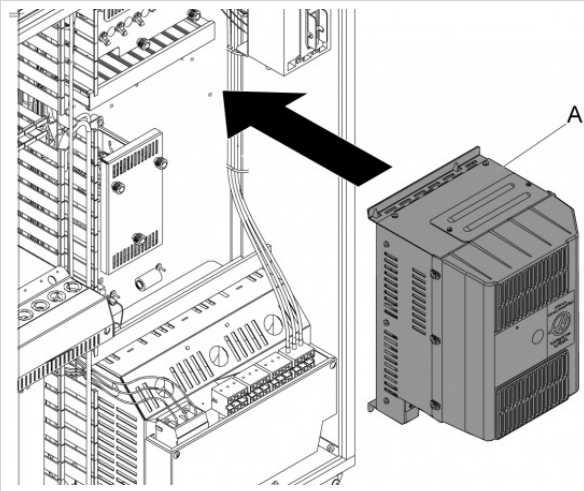
Put a label on each cable connected to the vector drive. Disconnect all of the cables from the vector drive.

Loosen the (2) bottom screws [1].

Remove or loosen the top (2) screws [1].

Remove the vector drive [2].

## STEP 3



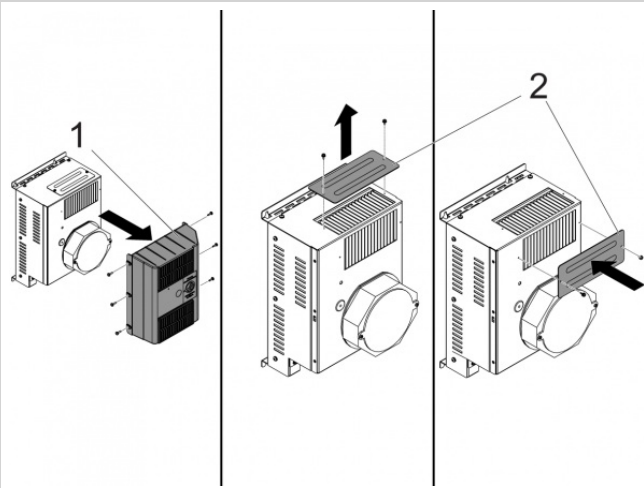
Do this step to replace a **Type 1** vector drive assembly only.

Install the replacement VECTOR DRIVE [A].

Tighten the (4) screws.

Connect all of the cables.

## STEP 4



Do this step to replace a **Type 2** or **Type 3** vector drive assembly only.

Remove and discard the VECTOR DRIVE [A] cover [1].

Move the heatsink cover [2] to the front.

Install the replacement vector drive.

Tighten the (4) screws for the vector drive.

For only type **Type 2**: vector drives connect all of the cables.



## STEP 6

Set the main circuit breaker to the **ON** position.



Push [**POWER ON**].

Change parameter **57:29, INV BUSS PWR FAULT** to 1.

For machines with lathe software versions 7.02, 8.04, 8.05, and 8.06: Change parameter **712, VDI/MINI P.S. TYPE** to 2.

For machines with mill software versions 14.05, 15.04, 15.05, and 15.06: Change parameter **712, VDI/MINI P.S. TYPE** to 2.