

# Maintenance and Repair

## Maintenance Schedule for CarveWright

	25 Hours	50 hours	100 hours	250 Hours	500 hours
Check Head Pressure	X	X	X	X	X
Blow Out Compression Roller	X	X	X	X	X
Clean Bit Plate with WD40	X	X	X	X	X
Clean Idler Pulleys with WD40	X	X	X	X	X
Clean rails and bearings	X	X	X	X	X
Check Board Sensor Reading		X	X	X	X
Check Y-belt tension		X	X	X	X
Check Flexshaft Core			X	X	X
Check bits			X	X	X
Check cover hinge screws			X	X	X
Clean X-drive gears			X	X	X
Replace Y & Z roller bearings				X	X
Replace Cut Motor Brushes				X	X
Replace Y-Motor Assembly				X*	X*
Replace Flexshaft Core				X*	X*
Replace Bits				X*	X*
Rotate Top Hat				X	X
Re-calibrate machine				X	X
Replace Z-Truck					X*
Replace Z-Motor Assembly					X*
Replace X-Motor Assembly					X*
Rebuild Cut Motor					X*

\* Depending on several factors, the replacement of part may not be necessary.

# Cleaning the Machine

- Vacuum as much dust from the machine as possible.
- Use compressed air to blow out remaining saw dust.
  - 100 psi will not hurt the machine with the exception of blowing directly on the FFC cable.
- Remove gummy residue with WD40.

# Approved Cleaning Products

- WD40 works the best.
- Goo Gone
- 3 in 1 Oil
- Clean rag

# Clean Guide Posts and Lead Screws

1. Cover belts with rags
2. Crank head all the way down
3. Spray WD40 on rag and wipe down guide posts and lead screws
4. Lightly spray WD40 at top of guide posts and on top of lead screw nut
5. Crank head to the top
6. Repeat step 3
7. Repeat process if needed

# Approved Lubricants

- Dry Film
- Marine grease
- Moly grease
- Assembly lubes
- There are many more but the 4 listed above work the best

# Lubricate Guide Posts and Lead Screws

1. Crank head to the top
2. Apply lubricant to bottom side of guide posts and lead screws
3. Crank head down
4. Apply lubricant to top side of guide posts and lead screws
5. Repeat if needed

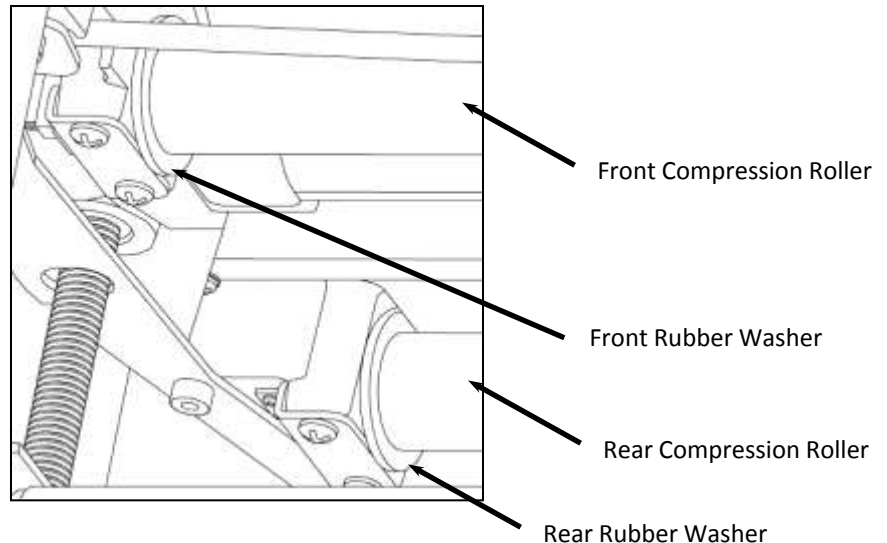
# Check Head Pressure

- Head pressure should be between 75-90 lbs
- If head pressure is greater than 90 lbs then add grease behind the clutch plate and, if necessary, remove spacers from clutch
- If head pressure is below 75 lbs, then check the tie rod and adjust guide posts
- Reference the document “Head Pressure – Checking & Adjusting the Head Pressure” on our website  
<http://www.carviewright.com/2010CWweb/support/maintenance.php>



# Clean Under Compression Rollers

- There is dust under the bushing preventing the roller from dropping
- Press up on the compression roller and blow dust out using compressed air.
- Reference the document “Compression Roller – Cleaning a Stuck Compression Roller” on our website  
<http://www.carviewright.com/2010CWweb/support/maintenance.php>



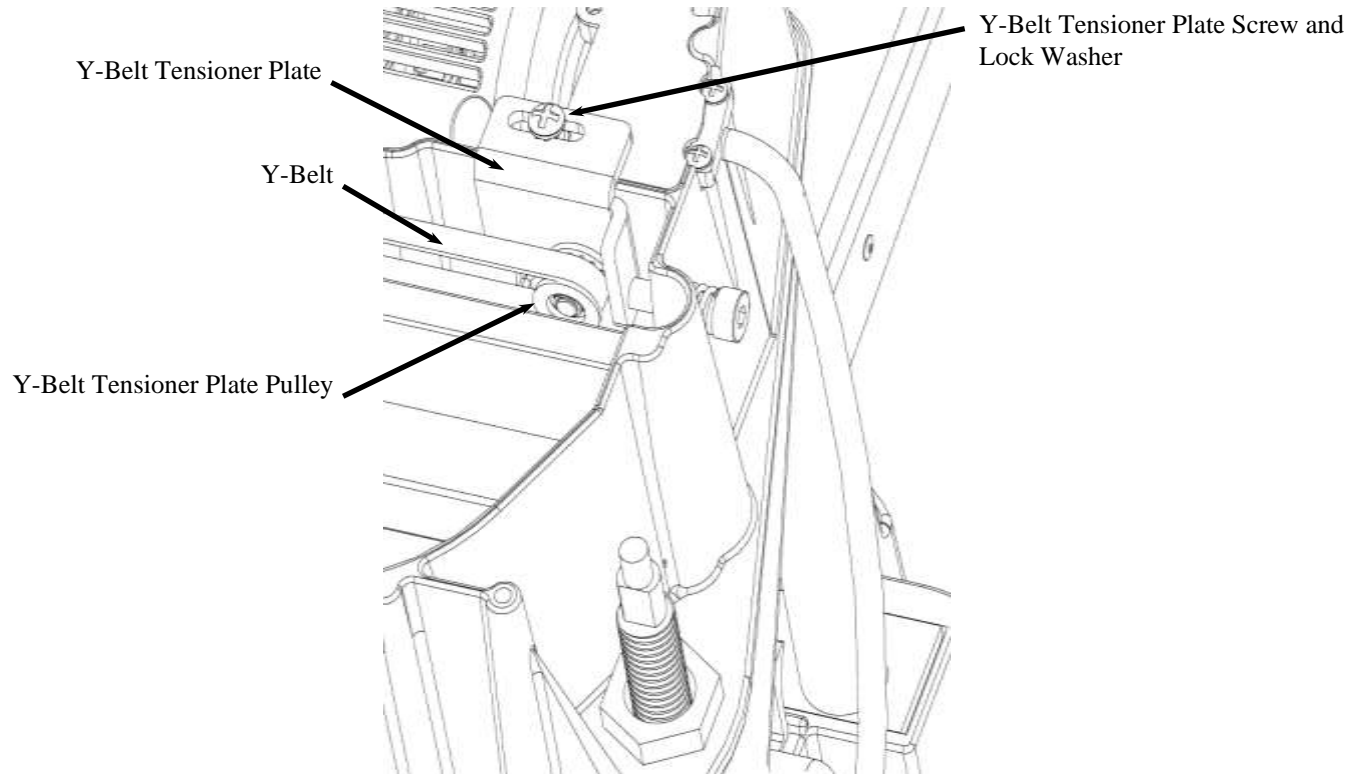
# Other Cleaning Duties

- Remove dust build-up from rails and roller bearings
- Spray WD40 on idler pulleys to remove gummy residue
- Spray WD40 on bit plate pivot
- Use compressed air to blow out the Board Sensor and wipe clear cover with clean rag

# Check Board Sensor

- Turn on machine
- Press 0 then 7, to get into the sensor check menu
- Press the down arrow key twice until you see “Board Sensor:”
- A reading of 100 or higher is great
- 70-100 may give you problems
- Less than 70 should be replaced

# How to Repair Loose Y-belt



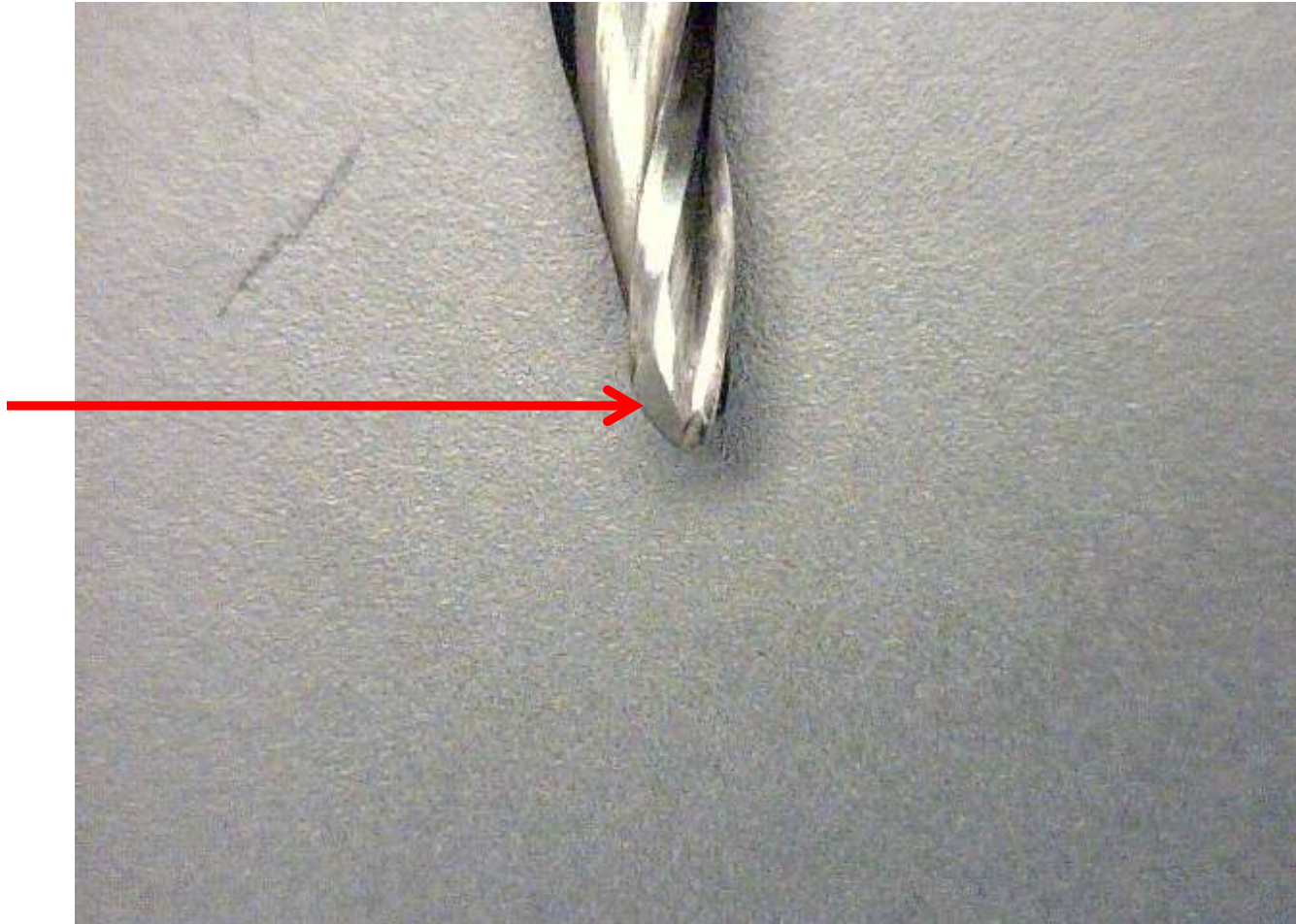
Loosen the Y-belt tensioner plate screw a couple of turns and then re-tighten.

# Check Flexshaft Core

- Verify the square ends are not frayed. The end should slide in and out of the cut motor and z-truck easily. Add a little grease if the ends are rusty.
- Check the wind-up of the core. The wind-up from end to end should not exceed 180 degrees.

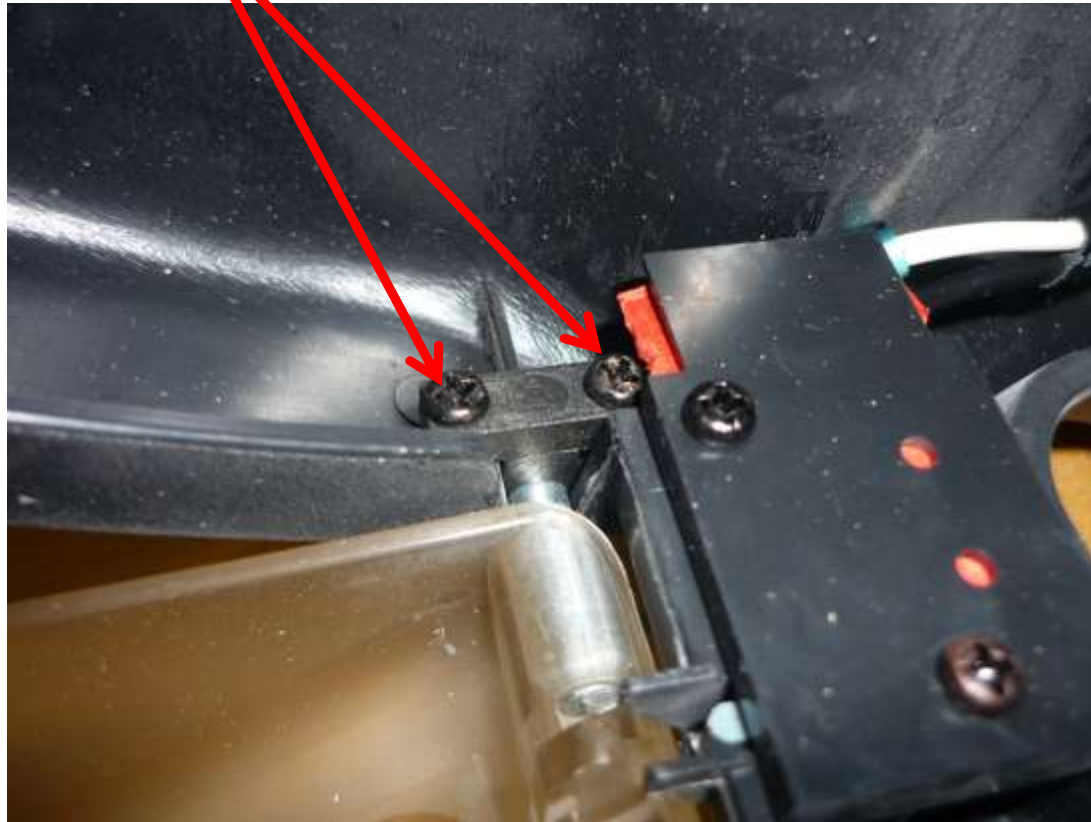
# Check Bits

Chip



# Check Cover Hinge Screws

Verify screws are tight.



# Clean X-drive Gears

- Reference the document “X-Drive Gears (Base Gears) - Replacement” on our website  
<http://www.carviewright.com/2010CWweb/support/maintenance.php>
- Crank head almost to the top
- Remove right side panel
- Remove x-drive gear cover
- Remove saw dust by vacuum or blow the dust out with compressed air
- Use compressed air to clear debris from the teeth of the gears
- Grease gears using marine grease
- Seal cover when re-installing



# Replace Y and Z Roller Bearings

- Reference the documents “Z-Truck - Replacement” and “Y-Truck – Replacement” on our website  
<http://www.carviewright.com/2010CWweb/support/maintenance.php>
- Drill bearings out with 3/16” bit
- Use red thread cement when re-installing trucks
- Rotate the adjustable bearings in the counter clockwise direction to load against the rail.

# Replace Cut Motor Brushes

- Reference the document “AC Cut Motor – Test and Replacement” on our website  
<http://www.carviewright.com/2010CWweb/support/maintenance.php>
- Use document to remove the cut motor from the machine
- Remove the Brush Caps using large flat blade screwdriver
- Replace brushes (verify the brush moves smoothly in the cans)
- Re-install the Brush Caps using large flat blade screwdriver
- Re-install cut motor

# Replace Y-Motor Assembly

- Reference the document “Y-Motor Pack - Replacement” on our website  
<http://www.carviewright.com/2010CWweb/support/maintenance.php>
- Make sure Y-Motor Pack is level when installing
- Don't put the pinion (brass gear) in a bind
- Make sure the belt pulley does not touch the aluminum head

# Replacement of Consumable Parts

- You should replace your bits and flexshaft core within 250 hours of use.
- Dull bits and/or a worn core will increase the stress on the rest of the machine components.
- You will also notice poor carving quality.
- These two items should be inspected closely anytime you suspect damage may have occurred.
- Sharp bits and a good flexshaft will make your job and the machine's job much easier.

# Rotate Top Hat

Ball Indent



# Re-Calibrate Machine

- Reference the document “CarveWright Machine – User Calibration Instructions” on our website  
<http://www.carviewright.com/2010CWweb/support/maintenance.php>
- “Cal Depth” is used when installing Heavy Duty Traction Belts
- “Cal Sensors” is used when the Board Sensor or the Y-truck is removed. This requires a 3/8” straight bit.
- “Manual X Axis Cal” is used when the board measurement (length) is ½” off or less. If the board measurement is over ½” off, than a board or hardware problem exists.

# Replace Z-Truck

- This replacement at 500 hours is recommended because the spindle bearings are close to the end of their life under normal loading.
- Excess heating and runout, along with total bearing failure can occur.
- Follow the instructions for replacing the Z-truck bearings.

# Replace Z-Motor Assembly

- This replacement is recommended at 500 hours because the motor brushes are approaching the end of their life.
- The bearings that support the pulley are starting to get some slop in them as well
- Reference the document “Z-Motor Pack - Replacement” on our website  
<http://www.carviewright.com/2010CWweb/support/maintenance.php>



# Replace X-Motor Assembly

- This motor sees the least amount of loading and usage compared to Y and Z.
- We recommend changing the motor at 500 hours but it could last upward of 750-1000 hours depending on what belts you have and the types of projects usually ran on the machine.
- Reference the document “X-Drive Gears (Base Gears) - Replacement” on our website  
<http://www.carviewright.com/2010CWweb/support/maintenance.php>

# Rebuild Cut Motor

- We recommend sending your Cut Motor to LHR for a rebuild at 500 hours because the bearings are close to the end of their life.
- Reference the document “AC Cut Motor – Test and Replacement” on our website  
<http://www.carviewright.com/2010CWweb/support/maintenance.php>