TROUBLE SHOOTING CL, ALPHA SS & TL SERIES TOOLS

This guide has been put together to help identify and correct problems with the CL, ALPHA (or A) and SS series tools manufactured by HIOS INC. in Japan and imported and sold in North America by the ASG Division of Jergens Inc. in Cleveland Ohio.

The TL series tools imported and sold by ASG while not manufactured by Hios will be very similar to the CL-4000 or Alpha-4500-5000 tools made by Hios. Most of what applies to those Hios models will also apply to the TL series tool.

The most common problem with these tools is damage due to the tool being dropped on the floor. Preventing this will greatly extend the life expectancy of the tools. Use a tool support and a balancer to keep the tool from landing on the floor. If this is not possible the next best remedy is to tether the cord to prevent the tool from reaching the floor if dropped. If you find cracked or broken plastic parts, or there is excessive run out on the bit you will find the tools being used unsupported.

Another common problem is the bits not staying in the tool. The ¼" hex drive tools are designed to use what is called a power bit. This style of bit has a locking grove about ¼" from the end of the bit. An insert bit which typically has just a straight body without the locking grove will not stay in the tool. There are three general methods to install and remove a bit from a power tool. On some tools the bit is just pushed into the hex of the tool pushing open an internal clip. On some tools the locking collar must move forward, or away from the tool to insert or remove the bit. On some tools the locking collar must be pushed back or toward the tool to insert or remove the bit. On all CL, A or SS and TL series tools the collar must be pushed back. If your operators are used to one of the other methods they can damage the joint shaft by pulling on the collar or jamming the bit into the hex without moving the collar.

Prior to disassembling the tool make sure the problem is in the tool and not the cord or the power supply. Check the tool with a known good cord and power supply to make sure the problem is the tool.

Remember that all threads are metric and that any set screws will require metric hex keys to remove or install. The set screws holding the joint shaft or chuck on to the tools are put in with a thread locking agent. Apply heat to these screws to deactivate the thread lock before attempting to remove the screw with the hex key.

Unplug power supplies before attempting to service them. Disconnect the tools before disassembling them.

ASG, Div Jergens Inc. **ISO 9001 : 2008**
Jergens Way | 15700 South Waterloo Road | Cleveland OH 44110
Tel (216) 486-6163 | Toll-Free (888) 486-6163 | Fax (216) 481-4519
E-mail: asginfo@asg-jergens.com | Web: www.asg.jergens.com | facebook.com/ASGJergens

Trouble Shooting Information For;
Hios CL, SS, Alpha Series and ASG TL Series Tools

1. THE TOOL DOES NOT RUN (DEAD).

A. Make sure the 5 pin connector on the tool cord is aligned properly at the tool and at the power supply. There is a groove on the plug which must align with a notch in the connector. If the plug has been connected incorrectly you will be able to see the mark made by the notch in the side of the plug.

Realign if necessary.

B. Check the circuit breaker and/or fuse on the power supply

Reset or replace as needed.

C. Check the connecting cord. The #1 and #3 pins are the power leads to the motor. Flex the cord at either end while operating the switch to check for intermittent operation.

Replace the cord if defective. A replacement connector is available if the cord has failed close to the end.

D. Check the ON/OFF switch lever. You should hear an audible click from the micro switch when operating the lever. On CL-6&7, A-6 and SS-6&7 tools the lever may be bent not allowing movement.

Gently bend the lever away from the body a little and recheck.

On CL-3, CL-4, A-4, A-5, SS-3, SS-4 & TL tools the switch lever is held in place with a screw with a black hexagonally shaped head. If this screw is over tightened it can bind the lever.
Loosen ¼ to ½ turn.

On the blue plastic pistol grip tools (obsolete) the housing can sometimes bind the trigger lever.

Remove some plastic from the sides of the trigger cavity with a file or carefully use a power die grinder.

On inline tools using the black plastic pistol grip attachment make sure that the trigger in the grip is operating the lever properly.

On push to start tools there is a push rod through the gears and armature. Make sure the push rod (rods) is moving freely.

Replace bent rod

ASG, Div Jergens Inc. **ISO 9001 : 2008**
Jergens Way | 15700 South Waterloo Road | Cleveland OH 44110
Tel (216) 486-6163 | Toll-Free (888) 486-6163 | Fax (216) 481-4519
E-mail: asginfo@asg-jergens.com | Web: www.asg.jergens.com | facebook.com/ASGJergens

E. Check the ON/OFF switch

Replace switch if bad.

F. Check all wiring from the connector to the switches and to the motor. On the NL tools there is a choke coil for noise limiting. Make sure all solder joints are good.

Re-solder bad joints, loose wires or replace damaged wire.

G. Check the FOR/REV switch. If the button has been impacted the inner contacts can be damaged. The bottom of the switch can be pushed out of the body. Inspect the bottom of the switch. If the "fingers" holding the bottom of the switch on are pushed out you may be able to squeeze them back into position and save the switch.

TL tools use a rocker switch

Replace switch if bad.

H. Check the motor brushes and the brush caps.

Replace missing or damaged brush caps, replace missing or excessively worn brushes. Make sure brush moves freely in brush holder cavity. Clean or replace rear motor cover assy.

I. Inspect motor assembly. Make sure armature spins freely. Debris between armature and magnet can cause jamming.

Clean or replace armature if wires are burned or damaged.

J. Inspect commutator for wear.

Clean commutator with light emery cloth. Clean between segments. Replace if worn excessively

K. On the CL-9000 make sure that the bits being used are not too long. If the bit has too much material between the rear edge of the groove and the end of the bit it can prevent the push to start action from resetting. The dimension between the edge of the groove and the end of the bit should be less than ¼" for proper operation

Remove material or replace bit.

ASG, Div Jergens Inc. **ISO 9001 : 2008**
Jergens Way | 15700 South Waterloo Road | Cleveland OH 44110
Tel (216) 486-6163 | Toll-Free (888) 486-6163 | Fax (216) 481-4519
E-mail: asginfo@asg-jergens.com | Web: www.asg.jergens.com | facebook.com/ASGJergens

2. THE TOOL RUNS IN REVERSE, NOT FORWARD.

A. Check the FOR/REV switch. If the button has been impacted the inner contacts can be damaged. The bottom of the switch can be pushed out of the body. Inspect the bottom of the switch. If the "fingers" holding the bottom of the switch on are pushed out you may be able to squeeze them back into position and save the switch.

Replace switch if defective.

B. Check wiring on FOR/REV switch.

Re-solder joints or replace wire.

C. Check the clutch limit switch.

Replace switch if damaged or shorted.

D. Check the operation of the clutch supporter. On CL-6&7, A-6 and SS-6&7 tools it should not be touching the button on the limit switch. On CL-3&4, A-4&5, SS-3&4 & TL tools it should be touching the button on the limit switch.

If it is found to be sticking, clean between the clutch supporter and the joint shaft. If there is galling or excessive wear replace the joint shaft and /or the clutch supporter. Clean between the clutch supporter and the torque adj. bolt.

3. THE TOOL DOES NOT SHUT OFF WHEN REACHING TORQUE (STALLS)

A. The torque adjusting nut has been over tightened compressing the torque spring.

Loosen the torque adjusting nut.

B. Incorrect torque spring has been placed in tool

Check tool specifications for proper torque spring color

C. Washers or spacers have been placed in the torque adj. nut to try to increase torque output. (On some versions of the CL-6, 65 & 7 and SS-6&7 a washer is installed as part of the torque adj. nut. This washer will have a counter bore facing the spring.)

Remove any incorrect parts.

ASG, Div Jergens Inc. **ISO 9001 : 2008**
Jergens Way | 15700 South Waterloo Road | Cleveland OH 44110
Tel (216) 486-6163 | Toll-Free (888) 486-6163 | Fax (216) 481-4519
E-mail: asginfo@asg-jergens.com | Web: www.asg.jergens.com | facebook.com/ASGJergens

D. The screws holding the clutch cover are interfering with the movement of the clutch panel due to being replaced with screws longer than 5.5mm

Replace with proper length screws. CL-6, 65 & 7, SS-6&7 require M3 x 5.5mm max length screws

E. The joint is too soft for the tool selected or the tool is being run on low speed.

Select a tool with a higher torque output, or switch the power supply to high speed.

F. On the CL-3, CL-4 A-45, A-5, SS-3, SS-4 & TL tools the clutch ball rod is tool long.

Replace with proper part.

G. On CL-3, CL-4, A-45, A-5, SS-3 & SS-4 the gear case plate is missing.

Replace plate. (not used on TL tools)

4. THE TOOL RATCHETS WHEN REACHING TORQUE.

It is normal for a CL, A and TL series tool to ratchet when run in reverse, not in forward. Make sure all connections are correct between power supplies and control boxes if used.

The SS series clutch will lock in reverse and deliver full torque to remove a fastener but none of them should ratchet in forward.

A. Voltage to tool is less than 15 V.D.C.

Correct cause of low voltage.

B. The motor brushes are worn and are not making good contact with the commutator.

Replace brushes and/or clean commutator

C. The clutch limit switch is bad, run the tool in the forward direction and manually operate the switch. The tool should shut off.

Replace switch if broken or shorted.

D. The wires to the limit switch are broken or shorted.

Repair or replace wires.

ASG, Div Jergens Inc. **ISO 9001 : 2008**
Jergens Way | 15700 South Waterloo Road | Cleveland OH 44110
Tel (216) 486-6163 | Toll-Free (888) 486-6163 | Fax (216) 481-4519
E-mail: asginfo@asg-jergens.com | Web: www.asg.jergens.com | facebook.com/ASGJergens

E. The wires are connected to the incorrect motor terminals.

Connect to the proper terminal.

F. The clutch ball has been replaced with an incorrect size ball.

Replace with proper sized ball.

G. On CL-3, CL-4 A-45, A-5, SS-3 & SS-4 the gear case plate has been installed backwards.

Reverse the plate. (Not used on TL tools)

H. One or both of the cast pins locating the limit switch is broken

Replace the torque adjusting bolt.

G. The screws holding the torque adjusting bolt to the gear case are loose allowing it to move.

Retighten screws.

I. On CL-3, CL-4, A-45, A-5, SS-3, SS-4 & TL tools the clutch support has worn and tips on the joint shaft rather than moving when the clutch activates.

Replace either the clutch support or the joint shaft or both.

5. THE TOOL RUNS BUT DOES NOT TIGHTEN SCREWS.

A. The joint shaft is loose.

Tighten or replace set screws or lock pin if missing.

B. The clutch ball is missing.

Replace with proper size ball.

C. The cam roller is missing.

Replace roller.

D. On CL-3, CL-4 A-45, A-5, SS-3, SS-4 & TL tools the clutch ball rod is missing.

ASG, Div Jergens Inc. **ISO 9001 : 2008**
Jergens Way | 15700 South Waterloo Road | Cleveland OH 44110
Tel (216) 486-6163 | Toll-Free (888) 486-6163 | Fax (216) 481-4519
E-mail: asginfo@asg-jergens.com | Web: www.asg.jergens.com | facebook.com/ASGJergens

7. THE DRIVER BIT WILL NOT STAY IN THE TOOL

A. The bit is not the proper size and does not lock into position. When the bit is placed into the joint shaft the locking collar will move back to the position it was in before inserting the bit.

Remove some material from the end of the bit where it fits into the tool and re-check

B. The locking collar is sticking.

Clean between the collar and the joint shaft or replace damaged collar or spring.

C. Bit locking balls are missing.

Replace the balls. Make sure the new balls do not fall through the holes. If the holes are oversize the joint shaft must be replaced.

8. THE TORQUE OUTPUT IS ERRATIC.

The TL tools use a spacer bushing between the torque spring and the torque adjusting nut. Be sure that this spacer bushing is positioned properly. One side of the spacer is turned down and this side should be fitted into the ID of the spring, it should not face the torque adjusting nut or be placed into the tool before inserting the torque spring.

In many cases this complaint can be due to the equipment or method being used to attempt the calibration. There are many devices designed to test fasteners or hand tools that are not suited to test power tools. The proper equipment will have the ability to allow the chuck to rotate a number of revolutions as though tightening a fastener before it shuts off. This means the tool runs for a few seconds before the clutch activates. This type of adapter needs to then be un-screwed before the next test. If you do not reverse the tool after each test you may not be following the proper procedure for your device.

A. The torque is not the same as the number on the torque adjusting bolt.

This number is only a reference number, refer to the tool's manual or torque chart to determine the actual torque based upon the reference numbers.

B. The torque spring is binding inside the torque adjusting bolt due to over tightening of a torque locking screw.

Replace the torque adjusting bolt. Do not tighten the locking screws more than 2 to 2.5 lbf.in.

ASG, Div Jergens Inc. **ISO 9001 : 2008**
Jergens Way | 15700 South Waterloo Road | Cleveland OH 44110
Tel (216) 486-6163 | Toll-Free (888) 486-6163 | Fax (216) 481-4519
E-mail: asginfo@asg-jergens.com | Web: www.asg.jergens.com | facebook.com/ASGJergens

C. The tool gives different torque readings on different torque meters.

Due to the different types of meters and adaptors available, this is also a common complaint. Even though a meter or device may be in calibration, when checked with test weights, it may not sense the torque output of a power tool the same as a different device would. The differences in electronics and the mechanics of the transducers almost insure that you may get different readings on different meters. The key is to see if the readings are consistent. For instance on meter "A" a tool reads 10 lbf.in +- .5 to .8. On meter "B" the same tool read 12 lbf.in +- .5 to .8 this is more likely to indicate that the meter is reading high than to indicate that the tool has a problem, especially if the tool is only rated up to 10 lbf.in.

Testing the above mentioned tool on a meter that has a range of 1 to 100 lbf.in would also be expected to produce different readings than on a meter that has a range of .5 to 15 lbf.in. On one unit you are close to the low end of the scale and on the other you are close to the high end of the scale.

Make sure that the driver adapter is in good condition. These adaptors are either a spring or a Belleville washer stack with a screw through the middle. Inspect the male and female threads, any bearings and the springs or washers to be sure they are in good condition and are properly lubricated. The adapters will be rated for a specific torque range. Be sure that the adaptor is good for the range you are trying to measure. They can also simulate different joint rates from soft to medium to hard. You should test the tool with an adapter close to the type of joint you are using to insure that the tool will perform properly.

Please do not hesitate to contact the ASG repair dept ASG with any repair questions you may encounter with our tools.

ASG, Div Jergens Inc. **ISO 9001 : 2008**
Jergens Way | 15700 South Waterloo Road | Cleveland OH 44110
Tel (216) 486-6163 | Toll-Free (888) 486-6163 | Fax (216) 481-4519
E-mail: asginfo@asg-jergens.com | Web: www.asg.jergens.com | facebook.com/ASGJergens

Trouble Shooting Information For;
Hios CL, SS, Alpha Series and ASG TL Series Tools

ASG, Div Jergens Inc. **ISO 9001 : 2008**
Jergens Way | 15700 South Waterloo Road | Cleveland OH 44110
Tel (216) 486-6163 | Toll-Free (888) 486-6163 | Fax (216) 481-4519
E-mail: asginfo@asg-jergens.com | Web: www.asg.jergens.com | facebook.com/ASGJergens

Assembly • Industrial • Precision Fastening