

SYSTEM SPECIFICATIONS

**IMPORTANT!**

Read this manual thoroughly and familiarize yourself with ALL controls and operating features. Keep this manual for future reference and maintenance.

Unpacking: Check the machine for damage. If damage is found, return to Uline.



CAUTION! Motor control equipment and electronic controllers are connected to hazardous line voltages. When servicing drive and controllers, there may be exposed components with housings or protrusions at or above line potential. Extreme care should be taken to protect against shock.

The user is responsible for conforming to all applicable code requirements with respect to grounding all requirements. Do NOT use extension cords to operate the equipment.

Disconnect AC input power before checking components, performing maintenance, cleaning up, and when the machine is not in use. Do NOT connect or disconnect wires and connectors while power is applied to circuit.

Wiring work should be carried out only by qualified personnel. There is a danger of electric shock or fire.



WARNING! Loose clothing must NOT be worn while the machine is in operation. Stay clear of moving parts while the machine is running.

TECHNICAL DATA

- Length: 95"
- Width: 59"
- Height: 14"
- Turntable Height from Floor: 3.2"
- Operation Space: 105" L x 75" W
- Maximum Pallet Size: 52" x 52"
- Shipping Weight: 1000 lbs

ELECTRICAL SPECIFICATIONS

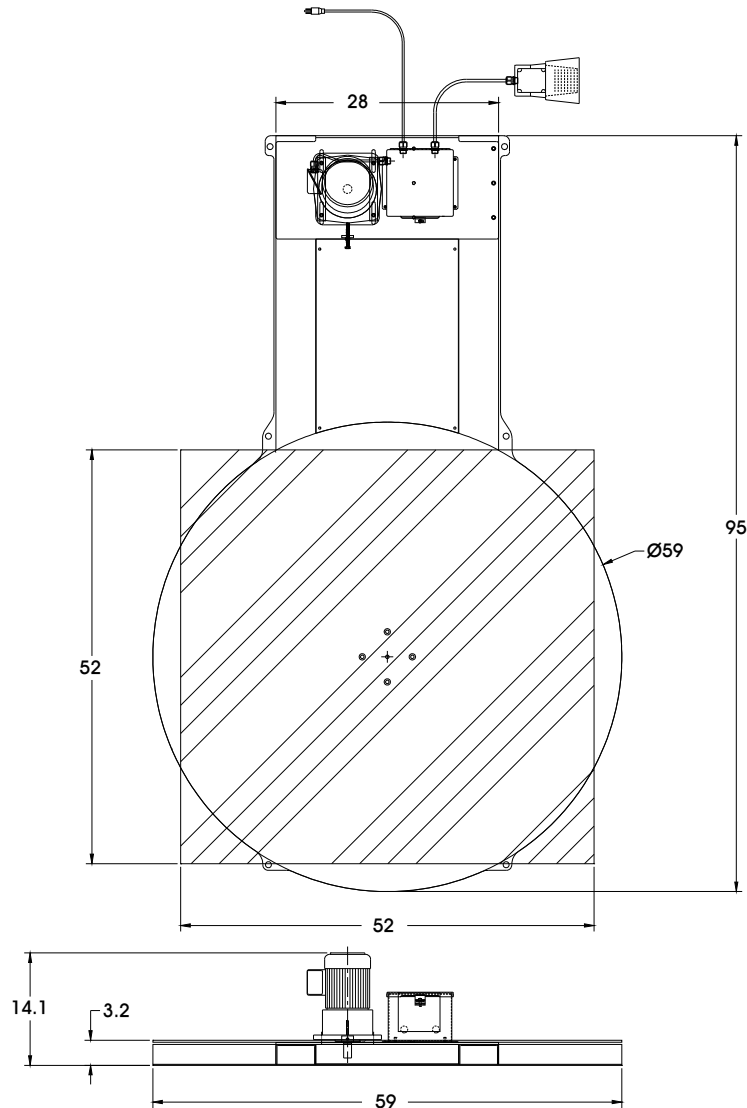
- 120VAC, 60 Hz, Single-phase, 15AMP

TURNTABLE SPECIFICATIONS

- ½ HP 3-phase AC motor
- ½ HP AC frequency drive with acceleration and deceleration control
- 12 RPM turntable maximum speed
- 4,000 lbs turntable maximum load capacity

SYSTEM DESCRIPTION

Figure 1



SYSTEM SET-UP

MACHINE PLACEMENT

Place the high profile turntable close to an area where you will be wrapping your pallet loads. Make sure that there is sufficient room to load/unload the machine and that you do not stretch the wiring cable. Remember, you will need to provide electrical service to a 120 VAC, 15-AMP outlet.

FLOOR WEIGHT BEARING TOLERANCE

The floor must be able to bear the weight of the machine, the weight of the maximum load, plus a safety factor. The floor must also be able to tolerate the stress of the machine's operation. If the fork trucks will operate on the same weight bearing area, add the weight of the trucks to the weight bearing stress tolerance requirements.

MACHINE SET-UP

1. Place skidded machine close to the designated wrap area. Remove all shipping fasteners holding the machine to the pallet.
2. Place forks of the forklift through the tubes provided at the rear base of the module, remove the machine from these skids, and place it at the designated wrap area.

SYSTEM SET-UP CONTINUED

POWER AND CONTROL WIRING CHECKS

1. Using a voltage meter, check the AC voltage coming to the system to insure proper voltage is present.
2. Plug the power cord to a 120VAC outlet. Power should be applied to the frequency drive and foot switch.

TURNTABLE SPEED ADJUSTMENT

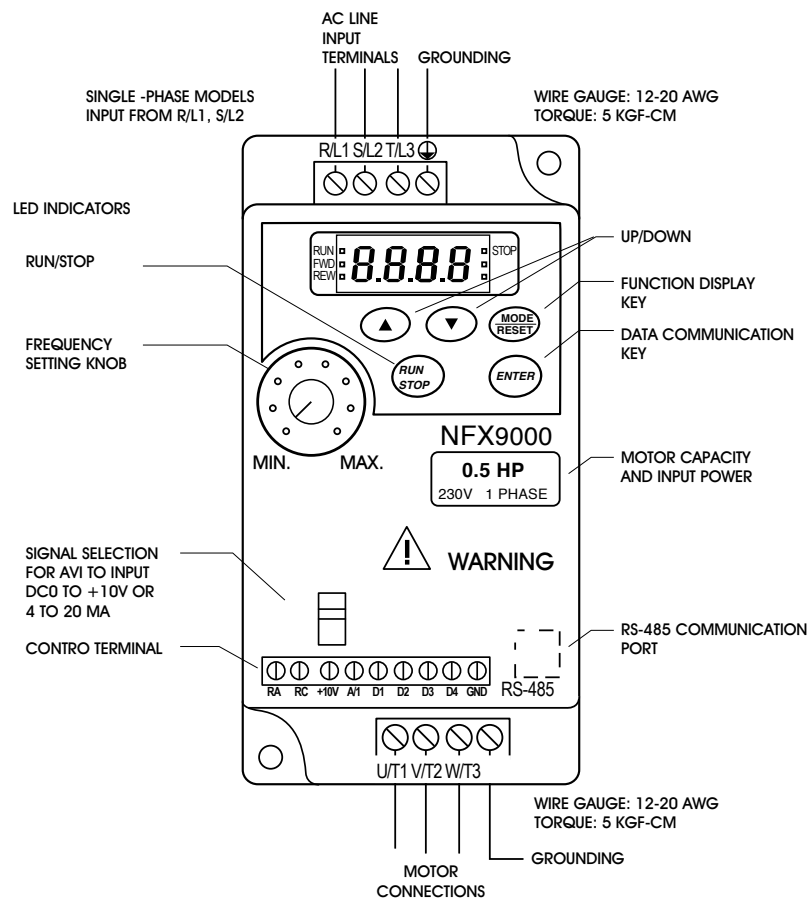
1. The turntable speed is adjusted by a built-in potentiometer dial on the AC frequency drive. Turn clockwise to increase, counter-clockwise to decrease. The maximum turntable speed is 12 rotation-per-minute (RPM).

OPERATING INSTRUCTIONS

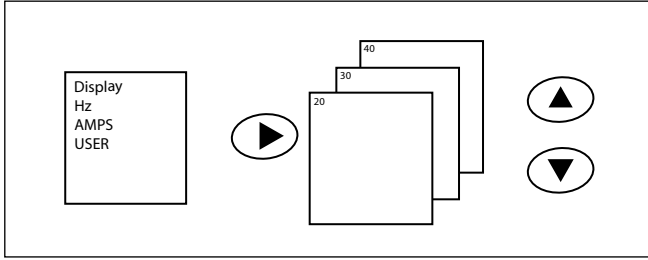
1. Simply step on the foot pedal to start the turntable drive motor. The foot pedal is a momentary switch. Releasing the pedal turns the turntable motor off.

FREQUENCY DRIVE ADJUSTMENT

Figure 2

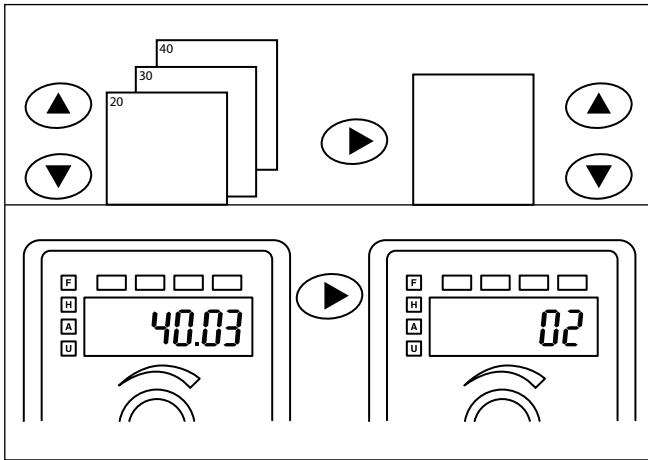


PARAMETER SETTINGS



PAGE GROUPS

Parameters are grouped in a page arrangement. Each page will contain a list of the parameters associate with that group. Move into the page groups from the display menu by using the right arrow key.



PARAMETER GROUPS

Select the desired parameter group by using the up and down keys. Once the parameter group is located, use the right arrow key to enter the group. Use the up and down keys to scroll the parameters on that page.

PARAMETERS

Once the parameter has been located, use the right arrow key to view the parameter setting.

PROGRAMMING MODE

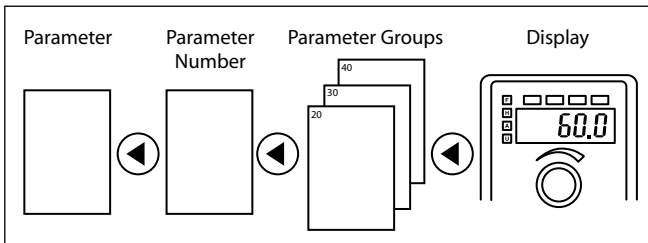
Use the ENTER key to enter the programming mode. The displayed parameter will flash indicating the parameter can be changed.

PARAMETER CHANGES

Use the up and down keys to change the parameter setting. Press ENTER to enter the parameter setting. If the parameter change is successful, the keypad will display the end (End) message and return to he parameter number display. If the parameter change is unsuccessful the keypad will display an error (Err) message, the parameter will not be hanged, and the parameter number will again be displayed.

TO EXIT PROGRAMMING MODE

Pressing left arrow backs out of Parameter Mode and returns you to Display Mode.



PROGRAMMABLE FUNCTIONS

All functions have been factory set and tested. Some of the most commonly adjusted programmable functions (parameters) are listed below:



NOTE: Refer to the manufacturer's Operation Manual or website for complete lists and explanations:

- **1-00 – Maximum Output Frequency**
This parameter determines the AC drive's Maximum Output Frequency. All the AC drive accelerations and decelerations are scaled to correspond to this maximum output frequency.
- **1-05 – Minimum Output Frequency**
This parameter sets the Minimum Output Frequency of the AC drive. This parameter must be equal to or less than the Mid-Point Frequency (50.7).
- **1-09 – Acceleration Time**
This is used to set the acceleration time. The acceleration time is based on the time it takes for the drive output to reach 60 Hz.
- **1-10 – Deceleration Time**
This is used to set the deceleration time. The deceleration time is based on the time it takes for the drive output to reach zero speed (from 60 Hz) after a stop or zero command is given.
- **2-00 – Source of Frequency Command**
This is used to set the drive for either keypad control or external signal input control.
- **2-01 – Source of Operation Command**
This is used to set the drive to determine operating commands from the Digital Keypad or external signal inputs.
- **7-00 – Motor Rated Current**
The value must be between 30 to 120% of the drives rated output current. This parameter sets the drive's output current limit.
- **8-00 – DC Brake Voltage Level**
This parameter determines the amount of DC Braking voltage applied to the motor during start-up and stopping. This value must be between 0% and 30%.
- **8-02 – DC Braking Time upon a Stop**
This parameter determines the duration of the time that the DC braking voltage will be applied to the motor upon a stop command of the AC drive.
- **8-14 – Auto Restart After Fault**
After a fault occurs, the AC drive can be reset/restarted automatically up to 10 times. Setting this parameter to 0 will disable the reset/restart operation after any fault has occurred.

FAULT DETECTION

FAULT NAME	FAULT DESCRIPTION	CORRECTIVE ACTIONS
OC	The AC drive detects an abnormal increase in current.	Check the wiring connections between the AC drive and motor for possible short circuits. Check for excessive loading conditions at the motor.
OH	The AC drive temperature sensor detects excessive heat.	Make sure the ambient temperature falls within the specified temperature range. Remove any foreign objects from the heat-sink, and check for possible dirty heat-sink fins.
OL	The AC drive detects excessive drive output current.	Check if the motor is overloaded.
OL1	Internal electronic overload trip.	Check for possible motor overload. Check electronic thermal overload setting.
OL2	Motor overload.	Reduce the motor load.

PREVENTATIVE MAINTENANCE

As with all machinery, proper attention and maintenance is the key to long component life, maximum performance, and safe operation. By spending a few minutes reading and following these preventive measures, you should reduce the downtime and prolong the life of your system.

It is important to understand that these maintenance schedules are minimum recommendations. Highlight Industries, Inc. cannot possibly know, evaluate or advise the various trades in all schedules of periodic maintenance. Accordingly, anyone who maintains or services a turntable only machine must first satisfy himself/herself as to the schedules of preventive maintenance based on cycling operation and environmental locations.



WARNING! All maintenance operations require the equipment to be powered down and locked out for personnel safety.

LOCK-OUT/ TAG-OUT PROCEDURES

Be sure that anyone performing any type of maintenance on this equipment is familiar with and is adhering to the lock-out/tag-out procedures set forth by the General OSHA or the State OSHA guidelines.

VISUAL CHECKS

Visual checks should be conducted at least once per month:

1. Keep the machine and surrounding area as clean as possible, especially near moving components.
2. Check for loose hardware, especially set screws located in: sprocket hubs, bearing hubs, and flanges.
3. Check for loose cotter pins.
4. Check for dry seals at the bearings.
5. Check for loose electrical connections and for frayed cords and cables. Replace immediately any damaged cords and cables.

TURNTABLE BEARING LUBRICATION TAB

If the turntable becomes noisy during operation, the supporting cam follower bearings under the turntable top may need replacement. The bearings are sealed and lubed for life, but will require replacement after several years of regular use. It is necessary to replace the entire cam follower assembly (bearings and plastic housing), not just the bearings, should the bearings become worn.

The King Post Assembly (center bearing) when worn is also replaced as a unit rather than individual components.



WARNING! All Failure to follow these procedures will reduce the life of your turntable and manufacturer's warranty obligation.

The main turntable bearing should be lubricated with clean grease that conforms to NLGI EP-2 penetration. Wipe fittings clean before and after lubrication; rotate the turntable while lubricating. Thereafter, use the following recommendation for periodic lubricating:

Shift Operation	Times Per Year
Single Shift	4
Double Shift	8
Triple Shift	12

TURNTABLE BELT ADJUSTMENT

Loosen the four reducer plate bolts. Adjust the position of the reducer to the desired belt tension using the rear tensioning bolt. Retighten the four reducer plate bolts.

MISCELLANEOUS PIVOT AND ROTATING BEARINGS

All other bearings not mentioned previously should be greased bi-monthly using Mobile EP-1 or equivalent.

MAINTENANCE SCHEDULE TABLE

Part	Schedule	Service With
Turntable Belt Drive Tension (For Predator Low Profile Only)	Check and adjust every three months.	
Gear Motor	The gear motor is filled with oil and sealed, no maintenance is required.	
All pivot bearings	Initially first 1,000 cycles; every 10,000 cycles thereafter.	Mobil EP-1 grease



NOTE: Refer to Electrical and Mechanical component's Operations Manuals shipped inside the enclosure for additional maintenance information.

TROUBLESHOOTING GUIDE



WARNING! Make sure that only qualified personnel perform inspection, troubleshooting and part replacement.



CAUTION! Disconnect all power including external control power that may be present before servicing the frequency drive controllers. **WAIT** for three (3) minutes for the DC bus capacitors to discharge. The frequency drive controller' display and/or LED's are not accurate indicators of the absence of DC bus voltage.

OPERATING ISSUE	CAUSES	RECOMMENDATIONS
Machine not powering on.	The system is not plugged into a 120VAC outlet.	Plug machine into a 120VAC outlet.
	Does it not have continuity.	Use a voltmeter to test continuity of the power cord. Replace the power cord to the machine. Replace the main circuit breaker.
	The frequency drive circuit breaker is not on.	Switch the main circuit breaker on.
	It is not receiving the charge.	Use a voltmeter to read input voltage to the frequency drive. Tighten or replace wiring to the frequency drive(s).
	It is not receiving 120VAC.	Use a voltmeter to read input voltage to the frequency drive. Tighten or replace wiring to the frequency drive(s). Replace the frequency drive(s).
Turntable is malfunctioning.	It is not set high enough.	Locate the turntable speed potentiometer dial on the AC frequency drive. Adjust potentiometer towards 100% to set speed.
	It is not functioning properly.	Step on the foot switch, and use a voltmeter to test for continuity of the foot switch. Tighten wiring, replace the foot switch if necessary.
	The frequency drive is not functioning (i.e. no faults displayed).	Remove power to the drive. Wait sixty seconds, and supply power back. Refer to frequency drive manufacturer's manual for specific fault.
	The frequency drive is not connected properly to the motor.	Locate the turntable motor, and use a voltmeter to check continuity of all motor wires. Tighten or replace wiring as necessary. Replace the turntable frequency drive.