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"YOUR SOLUTION PROVIDER"

EQUIPMENT MANUAL

PRE-FIT SERVICE GANTRY

Model Number: SG-5600-2GMAW-5TL-NGSSI-7010-01

Buyers PO Number: 440359-0000002

Northrop Grumman Ship Systems

Avondale, LA

Serial Number 1981



1.0 Description and Operation

The pre-fit service gantry is a structure that spans the panel line and travels on floor rails. It is designed to transport inserts to locations on the panel and allow them to be tacked in place. The gantry is moved utilizing a radio controlled transmitter box.

Moveable workstations are located on the outside of each gantry beam. The workstations, each consisting of a hand operated welding unit, are suspended from hoists. The hoists travel on a track and can be manually moved the length of the gantry. The hoists allow the welding units to be raised and lowered so the operator is able to reach difficult welding positions. Each hoist is individually controlled using the respective hoist's hand held operator control pendant.

The gantry is also supplied with a trolley hoist that travels the entire length of the gantry. The trolley hoist allows insert pieces to be picked up from outside the panel line rails and moved to any location on the panel. The trolley hoist runs on rails that are mounted on the top of the gantry beams. The trolley and hoist are controlled utilizing the same radio controlled transmitter box as the gantry.

A smoke extraction system is provided to minimize the undesirable smoke and fumes. When the fume extractors are in automatic start/stop mode, they will automatically turn on when welding starts and turn off approximately 15 seconds after welding stops.

Be sure to unpack and verify all parts and devices are there before you begin installation.



Installation Tip 1 - *Test all packages received before you lift* by pushing them lightly with your hands or feet to see how easily it moves. This tells you about how heavy it is. Remember, a small size does not always mean a light load. ***Make sure the weight is balanced and packed so it won't move around. Loose pieces inside a box can cause accidents if the box becomes unbalanced.***

Gantry Pushbuttons and Lights

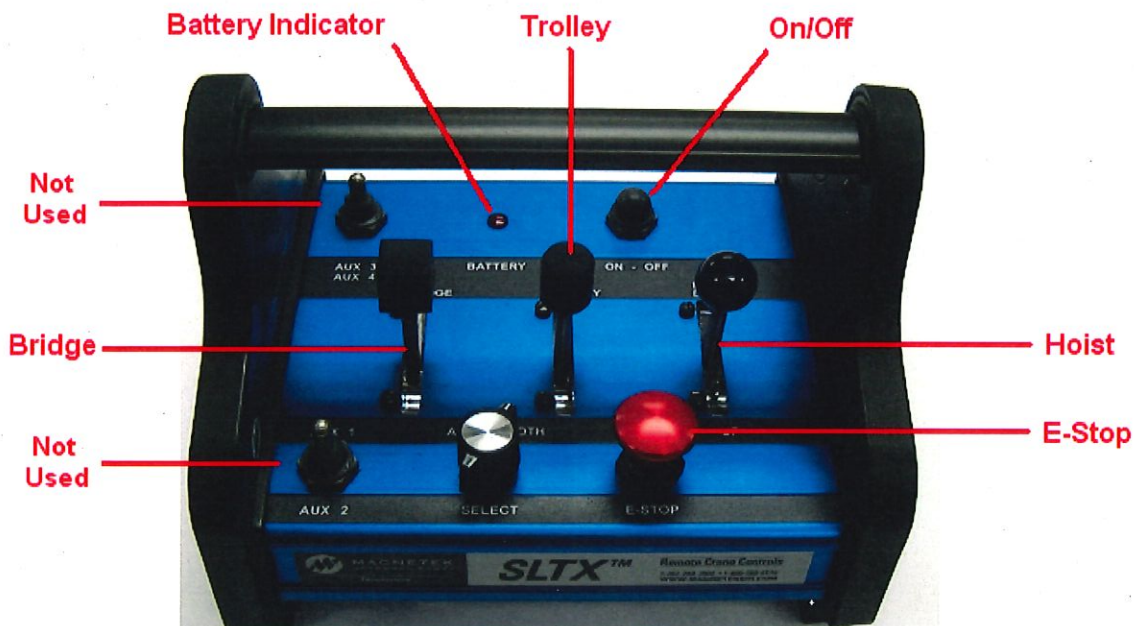
EMERGENCY STOP - An Emergency Stop pushbutton is located on each end of the gantry on the support leg assemblies. These are red mushroom head buttons that will illuminate when pushed. Pressing either of these two Emergency stop buttons will stop gantry and trolley hoist movement.

POWER ON LIGHT – This is a green pilot light, located on the main control enclosure. It will be illuminated when the control power for the gantry is on. **Reference Drawing: D9111-001**

GANTRY MOVING LIGHT – This is an Amber strobe light that is illuminated anytime the gantry is moving.

GANTRY MOVING HORN – This is an audible horn that sounds anytime the gantry is moving.

Radio Transmitter and Controls



Drawing A: RADIO TRANSMITTER BELLY BOX

EMERGENCY STOP - There is an Emergency Stop button located on the gantry's radio controlled transmitter box. This is a red mushroom head button. Pressing this Emergency stop button will stop the gantry movement.

ON-OFF – This is a momentary pushbutton. It is used to turn the radio controlled transmitter and receiver ON and OFF.

BATTERY – This is a red illuminated light. When the transmitter is ON the light will flash at a slow rate. When the transmitter is transmitting data the light will flash at a rapid rate.

GANTRY – This lever is used to control the gantry's forward and reverse movement. Moving the lever a small portion of the way will make the gantry move at a slow speed. Moving the lever the full extent of the travel will make the gantry move at a rapid speed. The moment the lever is released, it will return to the center position and the gantry movement will stop.

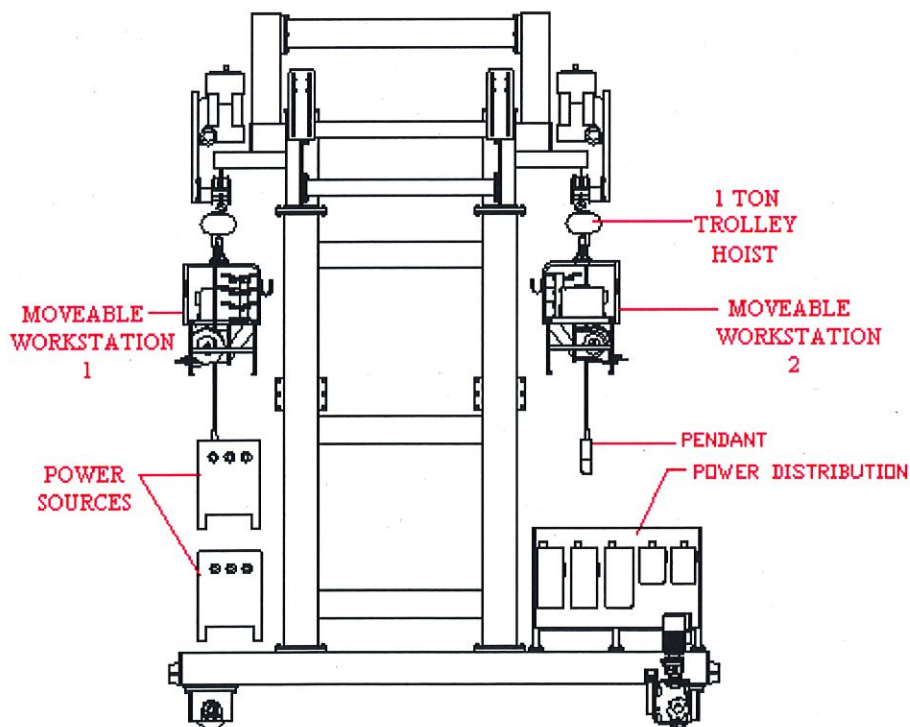
TROLLEY – This lever is used to control the trolley movement. Moving the lever a small portion of the way will make the trolley move at a slow speed. Moving the lever the full extent of the travel will make the trolley move at a rapid speed. The moment the lever is released, it will return to the center position and the trolley movement will stop.

HOIST – This lever is used to control the up and down movement of the trolley hoist. Moving the lever a small portion of the way will make the hoist move at a slow speed.

Moving the lever the full extent of the travel will make the hoist move at a rapid speed. The moment the lever is released, it will return to the center position and the hoist movement will stop.

The remaining control devices on the transmitter are not used in this application.

Sequence of Operation



Drawing B: SIDE VIEW PRE-FIT GANTRY

The main power distribution panel is located on the support leg assembly at the end of the gantry. All disconnect switches on the power distribution should be in the "ON" position for normal machine operation. Check to make sure that all the emergency stop pushbuttons are pulled out.

The Radio Transmitter Belly Box (See Drawing A on page 6), contains the switches for the operation of the gantry and hoist.

1. Press and release the ON/OFF pushbutton on the radio transmitter box. The radio transmitter box enables the control of the receiver. The battery light on the transmitter will be illuminated or flashing showing the status of the receiver.
2. Press and release the ON/OFF pushbutton again to energize the radio receiver unit located in the main control enclosure (reference D9111-001). The green POWER ON light will illuminate when gantry power is on.

The gantry control moves the gantry in the forward or reverse direction.



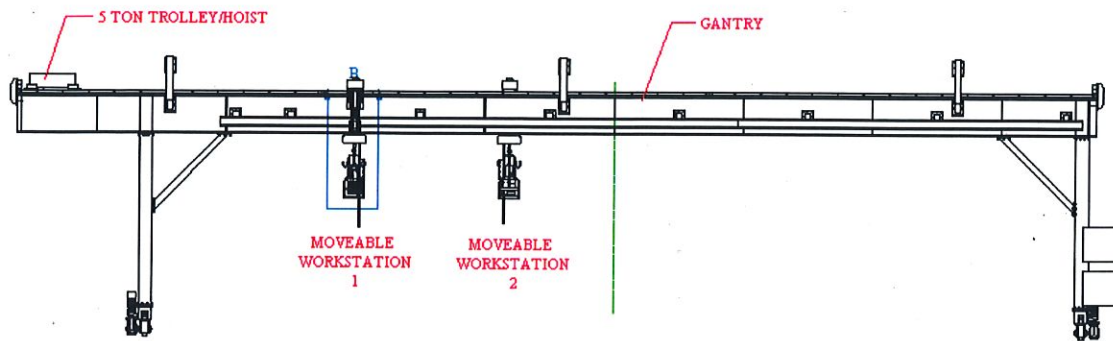
Warning: All Welding guns and smoke extraction hoses must be secured to the weld units before being raised to the full UP position.

Warning: All welding units must be in the fully raised position before moving the gantry.

Warning: The gantry will travel back and forth but will travel back to the center, or HOME POSITION immediately following the release of the trolley control.

The TROLLEY can be moved to a different location for lifting the material by the hoist. There are two speed controls: slow and rapid. (See Drawing C)

The HOIST is used to raise or lower materials to be placed on the material for tack welding. (See Drawing C)



Drawing C: FRONT VIEW OF PRE-FIT GANTRY

The GANTRY is equipped with a moveable workstation that supports the welding units.

All welding units are manually position by pushing or pulling the unit forward or reverse. The units can also be raised or lowered using a convenient hand held control pendant.



Caution: Always check that welding grounds are in place before welding.

Note: The vacuum smoke extractor system will automatically turn on and off during welding.

Once the weld is complete, secure the welding guns and smoke extraction hoses before raising the welding units.

To turn the GANTRY CONTROL POWER OFF, press and release the ON/OFF button. This will turn the power off to the radio transmitter and receiver. The POWER ON light will turn off at this time.

Crane Operation Safety Tip 1



Only permitted authorized and properly trained personnel should operate or work on over-head equipment. Listening to music on headphones, or talking on cell phones can cause distraction of safe operations and could result in serious injury. **Only focus on one electronic unit at a time – Making sure the Gantry and belly box are your focus.**