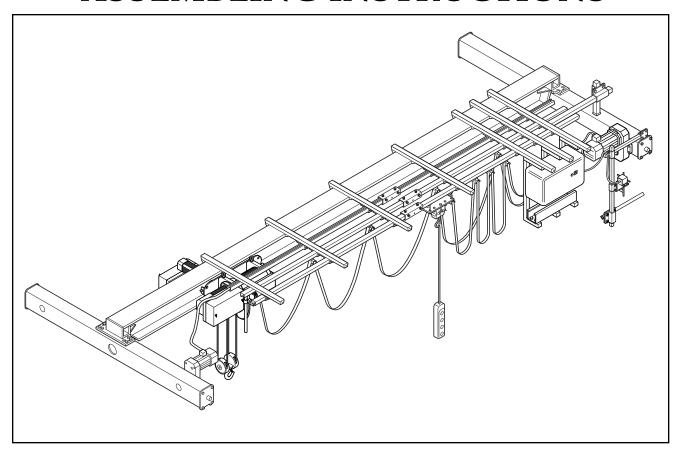


# QC 2000 MODULAR CRANE

# **ASSEMBLING INSTRUCTIONS**



SINGLE GIRDER



#### SINGLE GIRDER TOP RUNNING CRANE 3 **BRIDGE DRIVE ASSEMBLY** 4 CRANE POWER TOWING ARM ASSEMBLY 5 HOIST POWER TOWING ARM ASSEMBLY 6 7 BRIDGE PANEL ASSEMBLY BRIDGE PANEL SUPPORT ASSEMBLY 8 FESTOON ASSEMBLY 9 PLUG LAYOUT DRAWINGS 10 PLUG CONNECTION ASSEMBLY 11 PROFILE GIRDERS MEDIUM CONNECTIONS P-MED-B6 12 P-MED-B6 GIRDER CONNECTION 13 PROFILE GIRDERS MEDIUM CONNECTIONS P-MED-H2 14 P-MED-H2 GIRDER CONNECTION 15 CRANE TOWING ARM 16 **HOIST TOWING ARM** 17 BRIDGE CUBICLE FASTENING 18 **BRIDGE PANEL SUPPORT** 19 LIMIT SWITCH ASSEMBLY 20 QC CRANE SQUARE & SPAN INSTRUCTIONS 21

# IMPORTANT ASSEMBLY INSTRUCTIONS

PAGE NO.

- 1. Ensure you have all correct assembly instructions before starting assembly.
- Ensure you have the correct component package for your span and capacity.
- 3. Ensure the crane layout is the correct one for the application.
- 4. Use the correct size main girder.

**INDEX** 

- 5. Do not exceed maximum crane spans or capacities for any girder connection type.
- 6. Ensure you check alignment of drilling jigs before using.
- 7. Do not substitute metric girder connection hole sizes with English sizes.
- 8. Do not substitute any girder connection bolts or roll pin sizes with English sizes.
- 9. Use roll pins with all girder connections.
- 10. Tighten girder connection bolts to correct torque.
- 11. Plastic hammer may only be used to install traveling components.
- 12. Use bridge travel limit switch whenever possible.
- 13. Adjust hoist trolley and crane end stops correctly.
- 14. Perform a test run for assembled crane before shipping to job site.
- 15. Adjust crane collector pole at job site and cut excess tubing.
- 16. Run crane the length of the runway and adjust end stops.



BEFORE STARTING ASSEMBLY, MAKE SURE THAT YOU HAVE ALL CORRECT ASSEMBLY INSTRUCTIONS AND THE COMPLETE MODULAR CRANE COMPONENT PACKAGE. DO NOT MIX OR REPLACE COMPONENTS FROM ONE SET TO ANOTHER BEFORE CONFIRMING THAT THEY ARE INTERCHANGEABLE. MAKE SURE YOU ARE ALWAYS USING CORRECT COMPONENTS.

#### **CRANE LAYOUT**

There are two possibilities for crane layout depending on the location of the crane power supply in the building and the required push button side of the crane. All assembly instructions in this guide are shown in the crane layout drawing. If the other crane layout is desired, assemble bridge accessories in a mirror image. To maintain correct crane movement directions, bridge drive motor plugs (X-15, X-16) should be simply switched with each other at the bridge panel. Before starting crane assembly, make sure that the crane layout is the correct one for the application.

- Assemble the main girder and main girder/end truck connection per instructions in this guide.
- · Install the hoist per instructions in the "Hoist Owners Manual".
- Assemble crane festoon system per instructions in this guide.

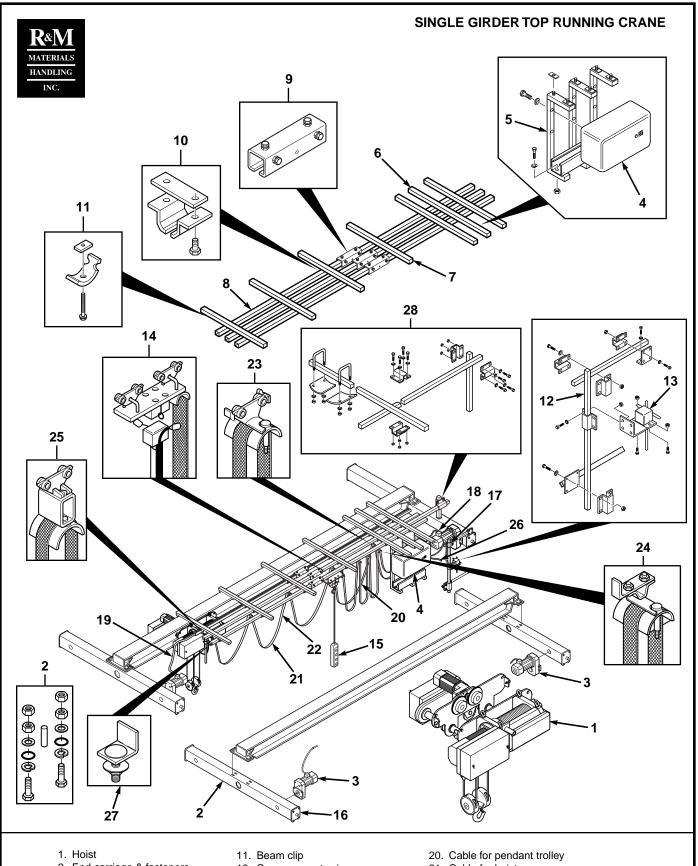
#### **CRANETEST RUN**

All modular crane components and cable connections are already factory tested before shipping, but to complete the quality cycle of R&M Materials Handling, a test run **must be done** before shipping the crane to the job site.

- 1. Turn off the main power disconnect switch from bridge panel.
- 2. Connect *correct* power to crane main power supply cable.
- 3. Turn on the power.
- 4. Turn on the main power connect switch from bridge panel. Wait a few seconds.
- 5. Press the green button from the push button to turn on the main line contactor.
- 6. The green button needs to be pressed every time after cutting off power or shutting down crane by e-stop.
- 7. Press slowly the hoist lowering button for a very short time, watching the rope underneath the drum.
- 8. If rope tends to tighten, turn off the power and main power disconnect switch and change phasing of the crane main power supply by switching any two of the of the three wires.
- 9. Turn on the power and main power disconnect switch again. Remember to press the green button.
- 10. Press lowering button again and make sure that rope is loosening from drum.
- 11. **NOTE**: When hook is on the ground and wire rope is loose, be very careful when raising or lowering hook, as it may result in a rope jam around the drum. Always follow the rope underneath the hoist.
- 12. Raise the hook carefully off the ground and check operation of hoist upper limit switch.
- 13. Now, perform all other hoisting and trolley directions, both fast and slow speed, and make sure they are working correctly.
- 14. Check the bridge drives and make sure that the wheels are turning opposite direction. Check fast and slow speed. (Fast speed does not work if bridge limit switch is not in center position.)
- 15. Check the operation of the bridge travel limit switch by turning the actuating arm of the switch while pressing bridge drive to fast speed.
- 16. The speed of both drives should be switched from fast speed to slow speed, for two speed, off for single speed, and to decel with inverter, when limit switch arm is turned to either direction from center position.
- 17. Listen to the sound of hoist and drive motors and ensure that motor brake is opening properly when motor is running.
- 18. Check that the emergency stop button of push button station is working. Remember to press the green button again to run the crane.
- 19. If horn is supplied with your crane, press the green button to sound the horn.

Crane traveling motions are set for operator standing on the push button side of the bridge, watching the load (up, down, left, right, forward, backward). If crane traveling motions from push button are not as desired, do not start to change hard wiring from hoist or bridge panels before checking the following possibilities.

- 1 Change main power phasing if all crane motions are opposite.
- 2. Change bridge travel motions by switching X-15 and X-16 plugs at bridge panel.
- 3. Check that bridge limit switch is connected and in "center" position if fast speed of drives is not working.
- 4. If crane does not start to operate, check that main line disconnect switch is "on" at bridge panel and that you have pressed the green button to turn main line contactor "on".

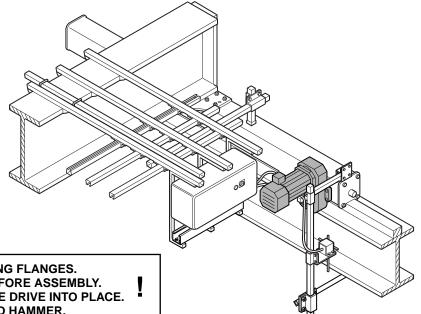


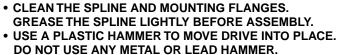
- 2. End carriage & fasteners
- 3. Traveling machinery4. Bridge panel
- 5. Bridge panel support
- 6. Bridge panel support rail
- 7. Profile support rail
- 8. C-track
- 9. Joint clamp
- 10. Track support clamp

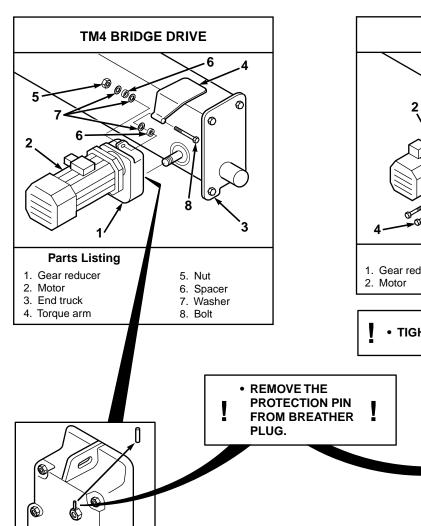
- 12. Crane power towing arm
- 13. Bridge travel limit switch
- 14. Pendant trolley
- 15. Push button station
- 16. End truck bumper
- 17. Cable for limit switch
- 18. Cable for drive motor 1
- 19. Cable for drive motor 2
- 21. Cable for hoist power
- 22. Cable for hoist control
- 23. Cable trolley
- 24. End clamp
- 25. Towing trolley26. Cable for crane main power supply
- 27. End stop for pendant trolley
- 28. Bridge panel support

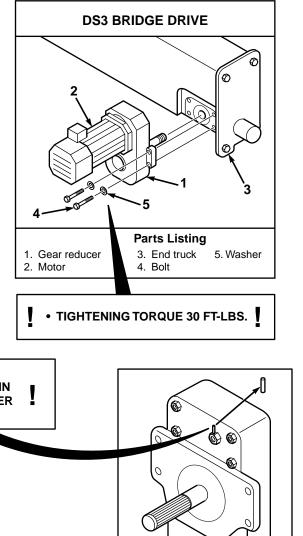


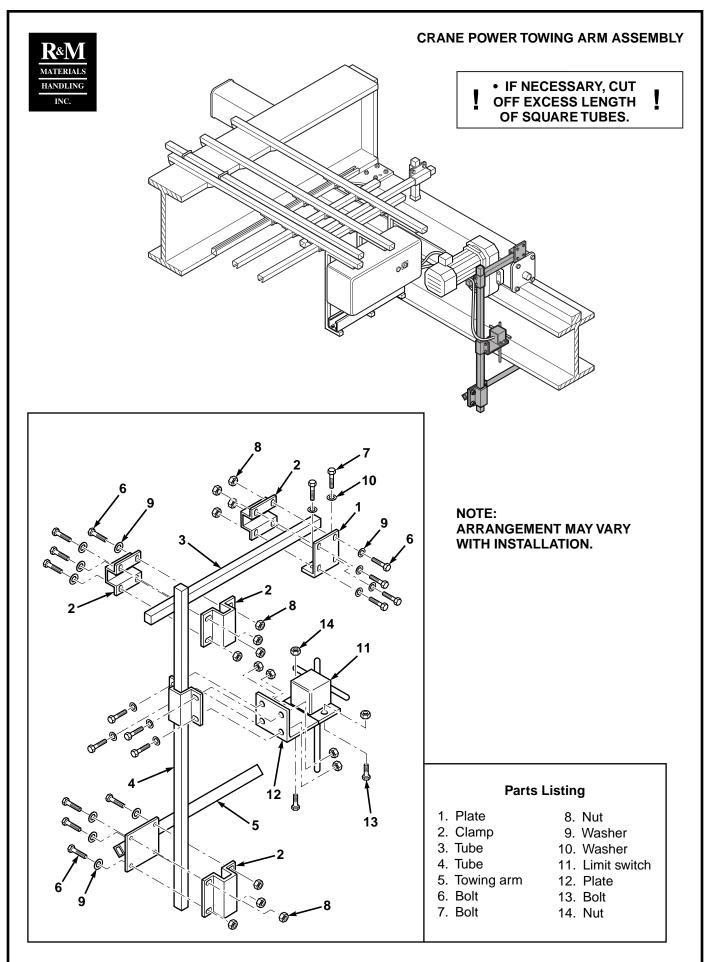
## **BRIDGE DRIVE ASSEMBLY**

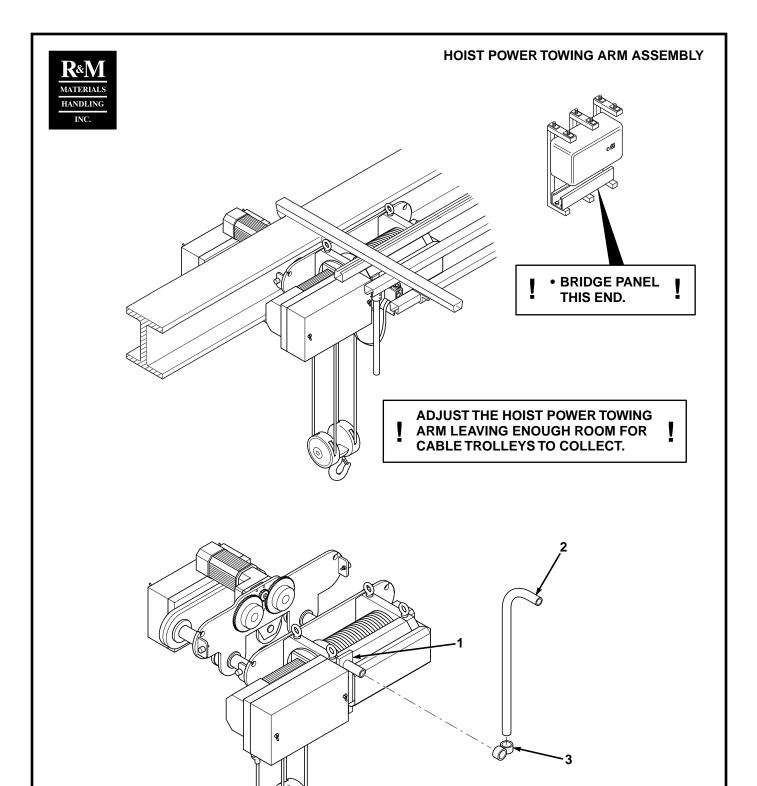










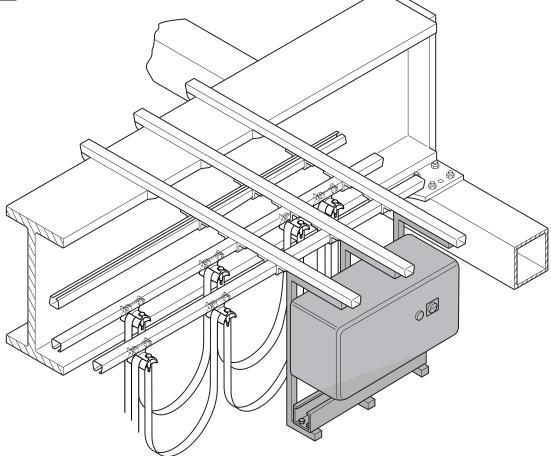


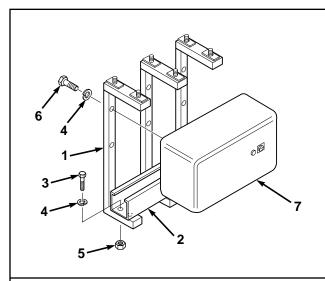
# **Parts Listing**

- 1. Plate
- 2. Towing arm
- 3. Joint

# **BRIDGE PANEL ASSEMBLY**







**Parts Listing** 

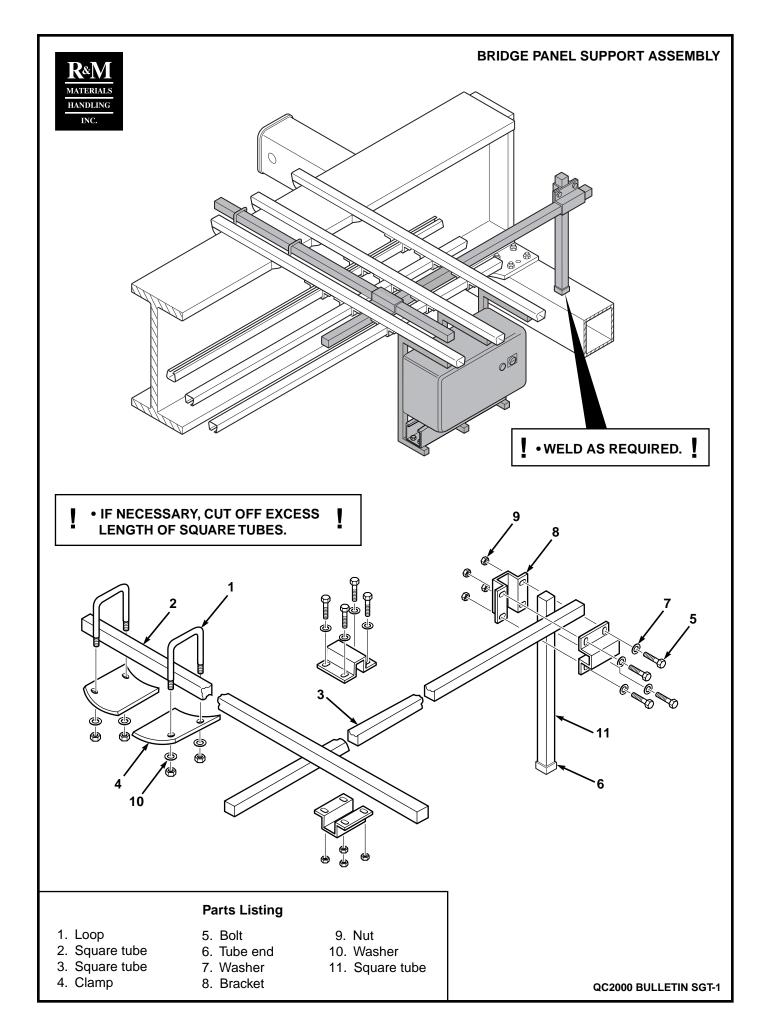
5. Nut

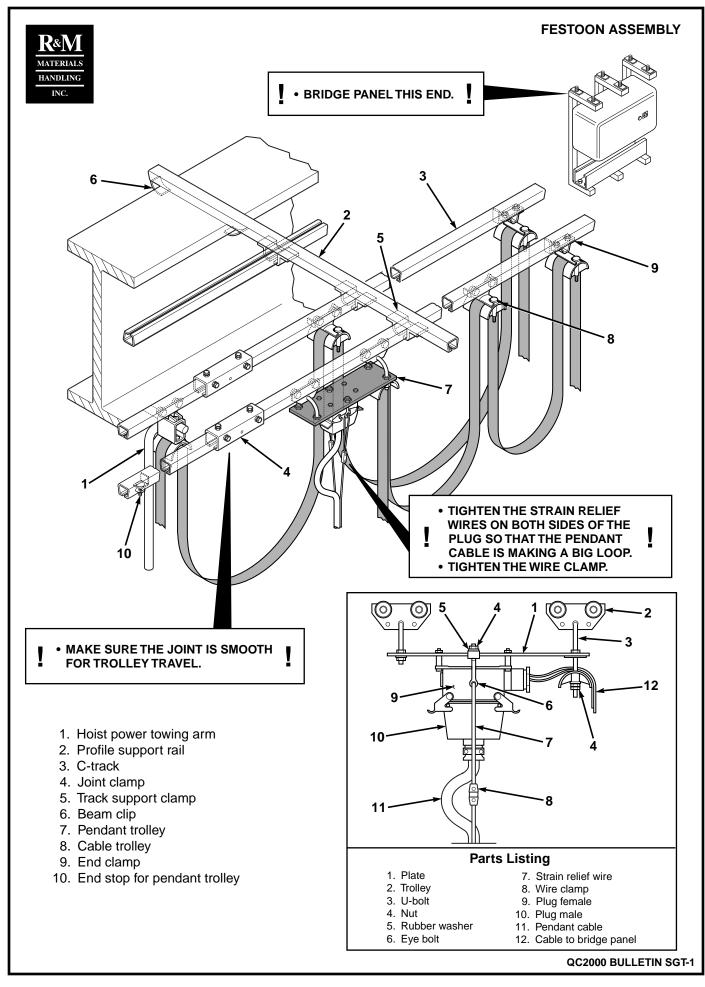
6. Bolt

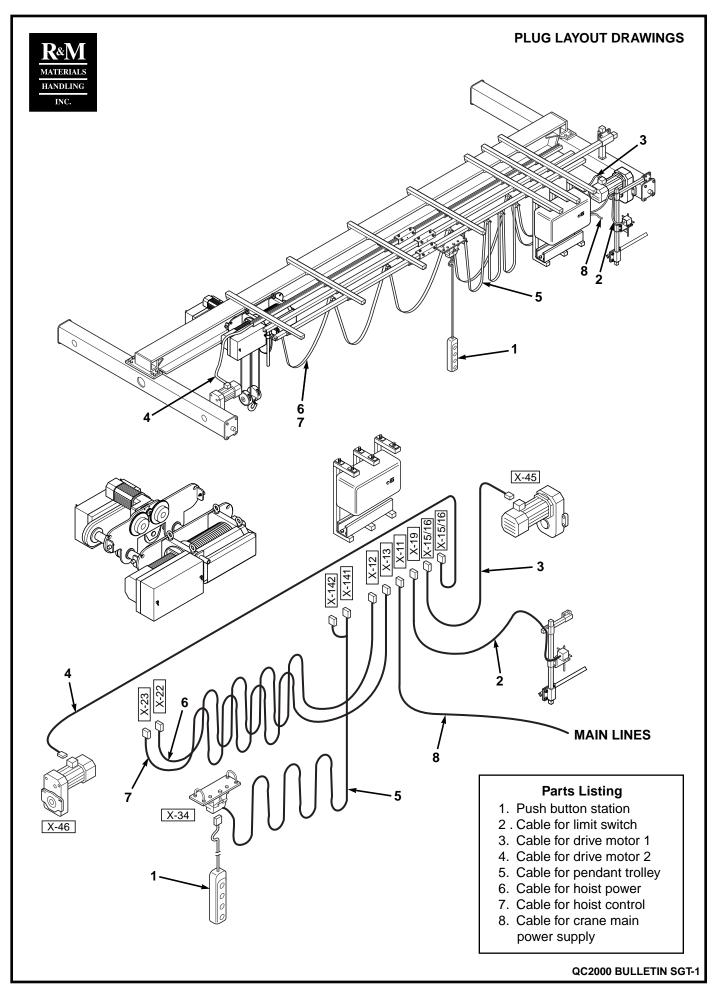
7. Bridge panel

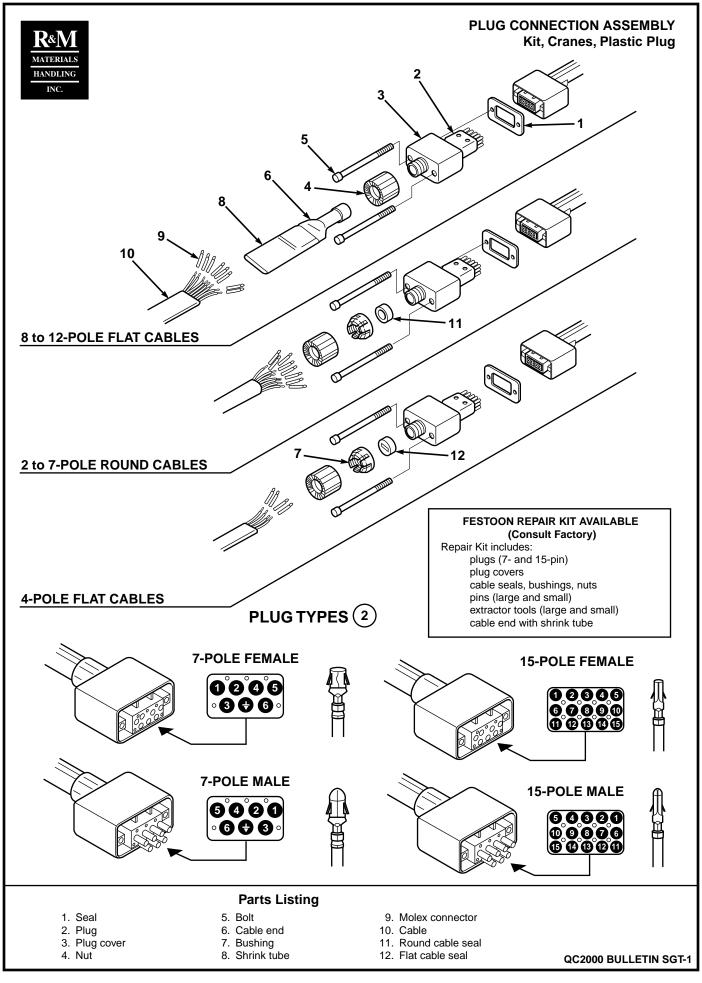
- 1. Frame
- 2. Cable tray
- 3. Bolt
- 4. Washer

- ASSEMBLE THE FRAME TO BRIDGE PANEL FIRST.
  - SLIDE ASSEMBLY INTO SUPPORTING C-RAIL.



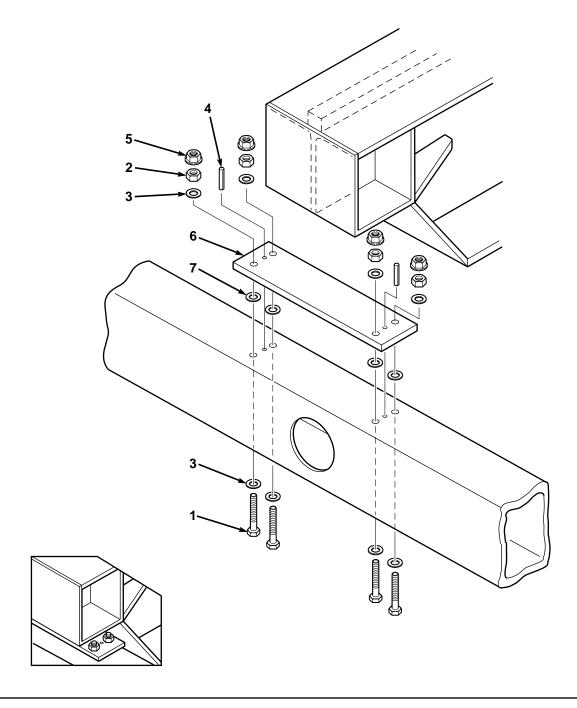








# P-MED-B6



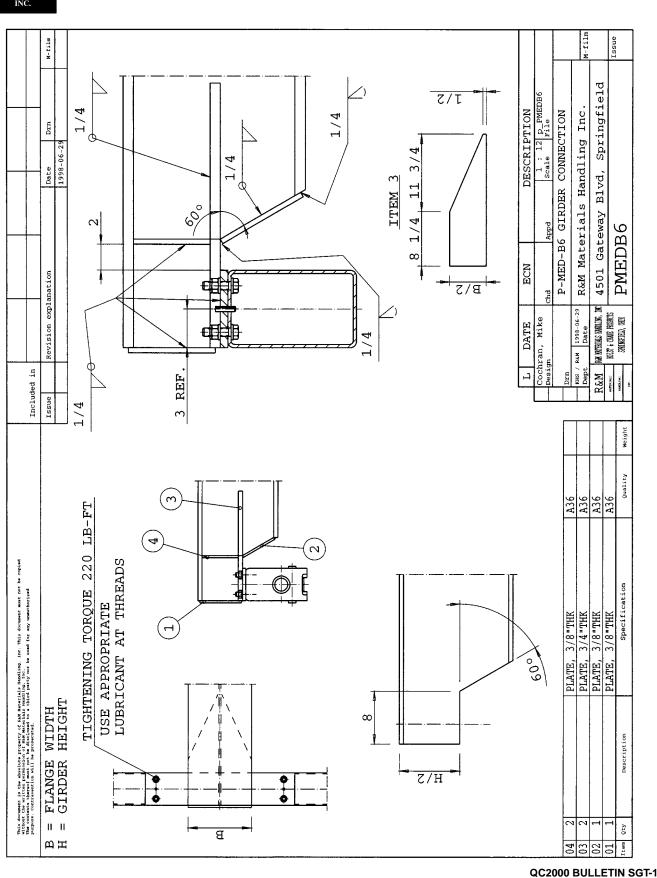
# **Parts Listing**

- 1. Bolt
- 3. Washer
- 5. Pal-nut
- 7. Friction ring

- 2. Nut
- 4. Spring pin
- 6. Joint plate

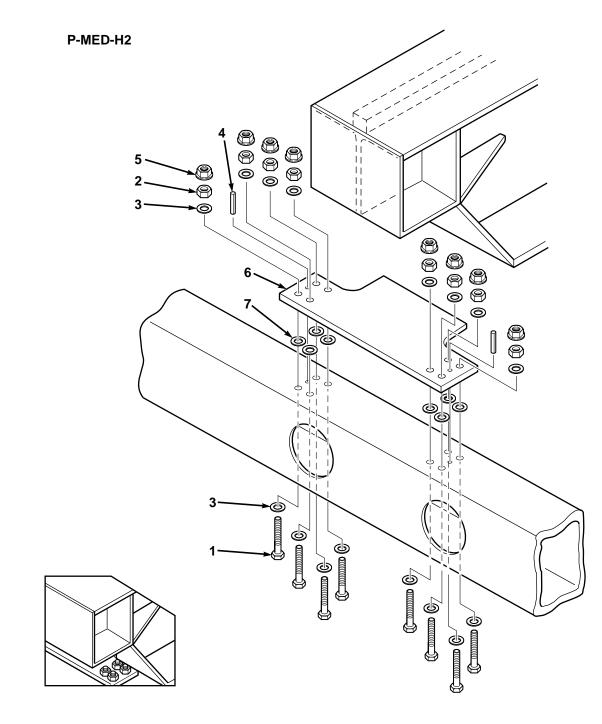
## P-MED-B6 GIRDER CONNECTION





# PROFILE GIRDERS MEDIUM CONNECTIONS





# **Parts Listing**

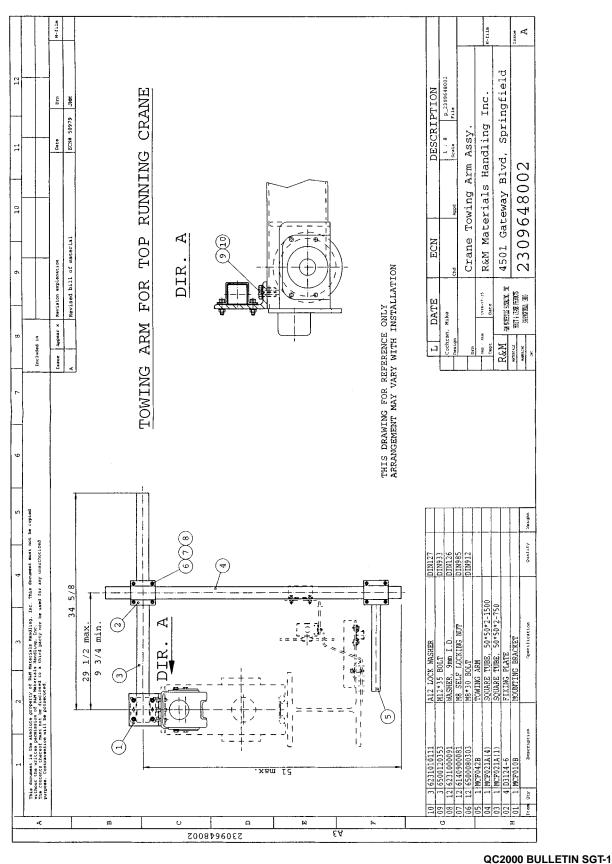
- 1. Bolt
- 3. Washer
- 5. Pal-nut
- 7. Friction ring

- 2. Nut
- 4. Spring pin
- 6. Joint plate

# P-MED-H2 GIRDER CONNECTION M-film Springfield 7/5 1 : 12 p PMEDI Scale File 1/4 R&M Materials Handling Inc. DESCRIPTION P-MED-H2 GIRDER CONNECTION Drn Date 1998-06-29 4501 Gateway Blvd, 11 ITEM PMEDH2 13 3/4 ECN Revision explanation RAF MATERIALS TANDLING, THC BOIST & CRANG PROOFCYS SPRINGSTELD, CHIO КНS / R&M 1998-06-29 Dept Date B/2 -DATE 1/4 Included in 4 REF Issue Weight Quality A36 A36 A36 A36 TIGHTENING TORQUE 220 LB-FT 4 USE APPROPRIATE LUBRICANT AT THREADS decount; to the account a payoring appeared of the Perceit, Heading. Inc. This document went not be copied without the without payoring special payoring and secretal heading because the conference particulates of the secretar behavior and the decount of the payoring of Specification PLATE, 3/8"THK PLATE, 3/4"THK PLATE, 3/8"THK PLATE, 3/8"THK 7/8 FLANGE WIDTH GIRDER HEIGHT 13 Description 8/T T 7/H 11 11 0ty mн 03 **QC2000 BULLETIN SGT-1**

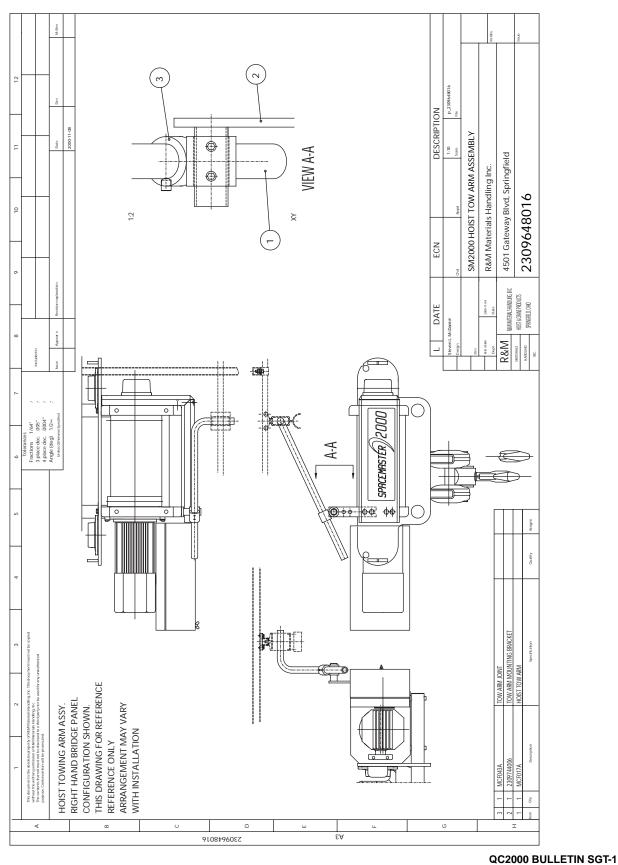
## **CRANE TOWING ARM**





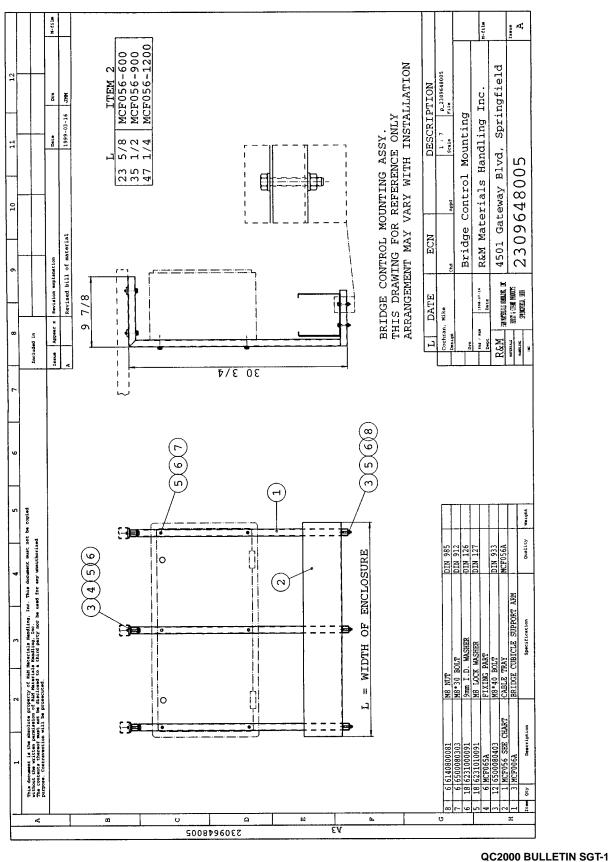
# **HOIST TOWING ARM**





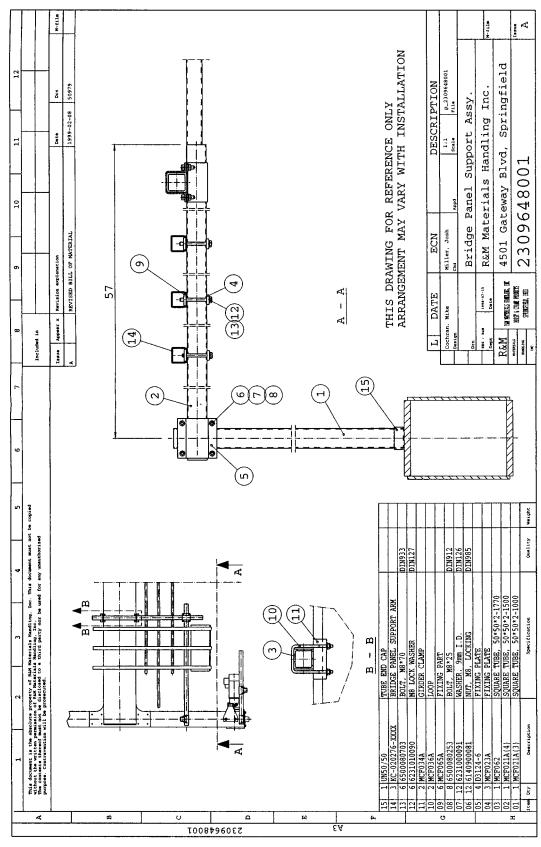
## **BRIDGE CUBICLE FASTENING**





# **BRIDGE PANEL SUPPORT**





## **LIMIT SWITCH ASSEMBLY**



