



THE FIRST NAME IN QUALITY COUPLINGS

# Installation, Inspection, Operation & Maintenance Guide



# Model 2 Weld-On Drawbar Eye

#### **IMPORTANT**

Read these instructions completely before installing, using or attempting to repair this product. If you have any questions, call Premier at (800) 255-5387 or (503) 234-9202.

#### Selecting The Right Equipment

Whatever your application, selecting the proper equipment for the job is very important. Proper selection along with regular inspection and maintenance will help keep operating costs minimal while providing long life to each component. Below are general guidelines for selecting Premier Couplings and Drawbar Eyes. If you feel that your application is unique, please give Premier a call so that we may help you through the selection process.

Follow these four steps to ensure proper selection of Premier Couplings and Drawbar Eyes.

Step 1:
Determine "Gross
Trailer(s) Weight"
(GVWR(s) of towed trailers)

Step 2:
Determine "Tongue
Weight Capacity"

(Maximum occurring tongue weight)

<u>Step 3:</u> Add Margin of Safety

(Dependent upon your equipment and operating environment)

Step 4: Browse Premier Product Catalog

(Based on Steps 1 - 3)

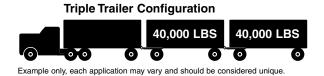
#### Step 1: Determine "Gross Trailer(s) Weight"

"Gross Trailer(s) Weight" is usually determined by the Gross Vehicle Weight Rating (GVWR). This information is attached to the trailer by the trailer manufacturer.

# Double Trailer Configuration 40,000 LBS

For "Double Trailer" configurations, only the rear trailer is considered when selecting your Premier Coupling or Drawbar Eye. In this example, a Coupling and Drawbar Eye with a "Gross Trailer Weight" rating of 40,000 lbs. (18,143 kg) would be the minimum rating acceptable for normal, over-the-road applications (see Tongue Weight section below).

Example only, each application may vary and should be considered unique.



For "Triple Trailers", only the two most rearward trailers are considered in selecting your Premier Coupling or Drawbar Eye. In this example, a Coupling and Drawbar Eye with a "Gross Trailer Weight" rating of 80,000 lbs. (36,287 kg) would be the minimum acceptable for normal, over-the-road applications (see Tongue Weight section below).

#### Step 2: Determine "Tongue Weight Capacity"



"Tongue Weight Capacity" is the maximum expected weight at the drawbar eye. If a hinged drawbar is used, the maximum weight will be approximately 1/2 the overall drawbar weight. If a non-hinged drawbar is used and the actual tongue weight is not known, you can approximate the weight by multiplying the GVWR of the towed trailer by 15%. However, each application is unique and the best practice is to weigh the tongue when the trailer is loaded to its GVWR.

#### Step 3: Considering Operating Conditions and Environments

Environments such as rough uneven roads or off-road use can dramatically increase shock loads to both drawbar eyes and couplings. In general, increasing the "Gross Trailer Weight" (Step 1:) and "Tongue Weight Capacity" (Step 2:) by a minimum of 25% will be sufficient for many applications. Even if an application is used off-road occasionally, the minimum increase necessary for Gross Trailer and Tongue Weight is 25%. Certain types of equipment and/or operating practices can also dramatically increase loads through equipment binding and/or improper loading practices. Of special concern is high tongue weight. However, each application is unique and every environment different, therefore your application may require more than 25%.

Once both "Gross Trailers(s) Weight" (Step 1:) and "Tongue Weight Capacity" (Step 2:) have been determined, evaluate your operating conditions and apply an appropriate margin of safety.

#### Step 4: Browse Premier Product Catalog

Browse the Premier Product Catalog and refer to the "Specifications" section of each product. Be sure to review the "Understanding Premier Load Specifications" section and "Coupling to Drawbar Eye Cross-Reference" sheet on the next couple pages.



#### Selecting The Right Equipment

#### Understanding Premier Load Specifications

Each Premier product undergoes extensive design and testing prior to being introduced. We use the latest in Computer Aided Design and Analysis Software as well as physical destructive tests. Premier's published load specifications are the maximum load a given product or part will withstand without failure. Premier's testing procedures closely follow the Society of Automotive Engineers (SAE) guidelines of Recommended Practice for testing Couplings and Drawbar Eyes (SAE J847 & J849).

Maximum occurring tongue weight. Static as well as dynamic loads.

Weight of Trailer(s) being towed (see "Selecting Premier Couplings & Drawbar Eyes").

Maximum load on latch or upper coupling surface containing drawbar eye. Latches and upper coupling surfaces are not designed for sustained load at this stated capacity.

Maximum Gross Trailer Weight: 30,000 lbs. . Maximum Tongue Weight: 4,500 lbs. Ultimate Latch/Upward Vertical Capacity: 5,000 lbs. Maximum Eye X-Section: 1 13/16 in. Minimum Eye Opening: 2 in.

(2,267 kg) (46 mm) (51 mm) Unit Weight: 12.6 lbs. (5.7 kg)

(13,607 kg)

(2,041 kg)

The largest x-section in eyelet portion of eye. Used to determine compatibility with coupling.

Minimum inside diameter of eyelet portion of eye. Used to determine compatibility with coupling.

Weight of unit or pair of units without accessories.

#### Importance of Inspection and Maintenance

Whether you use Premier Jacks, Couplings, Drawbar Eyes, Hinge Assemblies or any other Premier product, regular inspection and maintenance are essential for proper function, keeping repair costs to a minimum and above all, safe and efficient operation.

To determine wear limits, Premier created Wear Gages that help judge the useful life of couplings and drawbar eyes (details in catalog). In accordance with Premier and the Federal Motor Carrier Safety Regulations, these were designed to identify wear at the critical percentages of 18% and 20%, by measuring the crosssection of coupling hooks (horn) and drawbar eye loops. 18% wear indicates that

the product should be replaced as soon as possible. At 20% wear, the product is no longer in usable condition and must be taken out of service immediately and replaced. The latch gage bar measures the gap space between the top of the coupling hook and the closed latch. If the 3/8" latch gage bar can pass between this region, then the latch components should be considered worn past safe limits and replaced. Please note that these wear gage specifications are in accordance with Premier Mfg. Co. and the Federal Motor Carrier Safety Regulations (refer to other manufacturer's specifications for wear limits on their products).

Premier also provides Installation Guides for each of our major products. These help guide you through installation, inspection, routine maintenance and part replacement. Another resource is our website at www.premier-mfg.com. Here you will find Installation Guides, Service Guides, distributor locations, online catalogs, product information, trade show schedules and links to trucking resources.

# The Harder It Gets"

#### "Premalloy" - Premier's Exclusive Alloy

"The harder you work it, the harder it gets" best describes how Premalloy performs. Premalloy actually work hardens at the contact surfaces during normal use, which results in longer service life. Premalloy is highly recommended for off-road and aggregate type applications due to its wear resistant characteristics. Many of Premier's couplings are made from this exclusive material. As you are browsing the catalog, look for the Premalloy icon next to the product photos to determine which models are made of this material.

### Selecting The Right Equipment

#### Coupling to Drawbar Eye Cross Reference Chart

|           |          |    |   | 1 | 1 |      | 1            |   |    | 1  | 1  |    |     | 1   |     | 1   |     | Ora | wb  | ar  | Еує  | es  |     |     |                    |                    |                      |     |     | i   |     |     |     |     |       |     |
|-----------|----------|----|---|---|---|------|--------------|---|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|--------------------|--------------------|----------------------|-----|-----|-----|-----|-----|-----|-----|-------|-----|
|           |          |    |   |   |   |      |              |   |    |    |    |    |     |     |     |     |     |     |     |     |      |     |     |     | μ                  | έ                  | B-3†                 |     |     |     |     |     |     |     | ш     |     |
|           |          | 2* | က | 4 | 2 | 6/6A | <b>&amp;</b> | = | 20 | 21 | 22 | 23 | 107 | 108 | 110 | 123 | 125 | 126 | 127 | 200 | 200L | 203 | 205 | 207 | 238DB <sup>†</sup> | 245DB <sup>†</sup> | 245DB-3 <sup>†</sup> | 300 | 304 | 305 | 306 | 307 | 309 | 405 | 407SI | 410 |
|           | 16       | •  | • | • | • | •    | •            | • | •  | •  | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •    | •   | •   | •   | •                  | •                  | •                    | •   | •   | •   | •   | •   | •   | •   | •     | •   |
|           | 24       | •  |   |   |   |      |              |   |    |    |    |    |     |     |     |     |     |     |     |     |      |     |     |     |                    |                    |                      |     |     |     |     |     |     |     | П     | _   |
|           | 40       | •  |   |   |   |      |              |   |    |    |    |    |     |     |     |     |     |     |     |     |      |     |     |     |                    |                    |                      |     |     |     |     |     |     |     | П     |     |
|           | 100†     |    |   | • | • | •    | •            | • | •  | •  | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •    | •   | •   | •   | •                  | •                  | •                    | •   | •   | •   |     | •   | •   | •   | •     | •   |
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|           | 135NT    |    | • | • | • | •    | •            | • | •  | •  | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •    | •   | •   |     | •                  | •                  | •                    | •   | •   | •   |     |     | •   |     | П     |     |
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|           | 235NT    |    |   | • | • | •    | •            | • | •  | •  | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •    | •   | •   |     | •                  | •                  | •                    | •   | •   | •   |     |     | •   |     |       |     |
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|           | 270      |    |   | • | • | •    | •            | • | •  | •  | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •    | •   | •   | •   | •                  | •                  | •                    | •   | •   | •   | •   | •   | •   | •   | •     | •   |
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|           | 370      |    |   | • | • | •    | •            | • | •  | •  | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •    | •   | •   | •   | •                  | •                  | •                    | •   | •   | •   | •   | •   | •   | •   | •     | •   |
| gg _      | 370B     |    |   | • | • | •    | •            | • | •  | •  | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •    | •   | •   | •   | •                  | •                  | •                    | •   | •   | •   | •   | •   | •   | •   | •     | •   |
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| Couplings | 470H     |    |   | • | • | •    | •            | • | •  | •  | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •    | •   | •   | •   | •                  | •                  | •                    | •   | •   | •   | •   | •   | •   | •   | •     | •   |
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| _         | 580      | •  | • | • | • | •    | •            | • | •  | •  | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •    | •   | •   | •   | •                  | •                  | •                    | •   | •   | •   | •   | •   | •   | •   | •     | •   |
| _         | 580J     |    |   | • | • | •    | •            | • | •  | •  | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •    | •   | •   | •   | •                  | •                  | •                    | •   | •   | •   | •   | •   | •   | •   | •     | •   |
|           | 590      | •  | • | • | • | •    | •            | • | •  | •  | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •    | •   | •   | •   | •                  | •                  | •                    | •   | •   | •   | •   | •   | •   | •   | •     | •   |
|           | 690/690T |    |   | • | • | •    | •            | • | •  | •  | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •    | •   | •   | •   | •                  | •                  | •                    | •   | •   | •   | •   | •   | •   | •   | •     | •   |
|           | 770      | L  |   | • | • | •    | •            | • | •  | •  | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •    | •   | •   | •   | •                  | •                  | •                    | •   | •   | •   | •   | •   | •   | •   | •     | •   |
|           | 780      |    |   | • | • | •    | •            | • | •  | •  | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •    | •   | •   | •   | •                  | •                  | •                    | •   | •   | •   | •   | •   | •   | •   | •     | •   |
|           | 790      |    |   |   |   |      |              |   |    |    |    |    |     |     |     |     |     |     |     |     |      |     |     |     | •                  |                    | •                    | •   | •   | •   | •   | •   | •   | Ш   | Ш     |     |
|           | 880      |    |   |   |   |      |              |   |    |    |    |    |     |     |     |     |     |     |     |     |      |     |     |     | •                  |                    | •                    | •   | •   | •   | •   | •   | •   | Ш   | Ш     |     |
|           | 890/890C |    |   | • | • | •    | •            | • | •  | •  | •  | •  |     |     | •   | •   | •   | •   |     | •   | •    | •   | •   |     | •                  | •                  | •                    | •   | •   |     |     |     | •   | Ш   | Ш     |     |
|           | 2200     | _  |   | • | • | •    | •            | • | •  | •  | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •    | •   | •   | •   | •                  | •                  | •                    | •   | •   | •   | •   | •   | •   | •   | •     | •   |
|           | 2300     |    |   | • | • | •    | •            | • | •  | •  | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •    | •   | •   | •   | •                  | •                  | •                    | •   | •   | •   | •   | •   | •   | •   | •     | •   |
| _         | 2300B    |    |   | • | • | •    | •            | • | •  | •  | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •    | •   | •   | •   | •                  | •                  | •                    | •   | •   | •   | •   | •   | •   | •   | •     | •   |
|           | 2400     |    |   | • | • | •    | •            | • | •  | •  | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •    | •   | •   | •   | •                  | •                  | •                    | •   | •   | •   | •   | •   | •   | •   | •     | •   |
|           | 2400H    |    |   | • | • | •    | •            | • | •  | •  | •  | •  | •   | •   | •   | •   | •   | •   | •   | •   | •    | •   | •   | •   | •                  | •                  | •                    | •   | •   | •   | •   | •   | •   | •   | •     | •   |

#### † Saf-Tite Product

\* Industrial Application

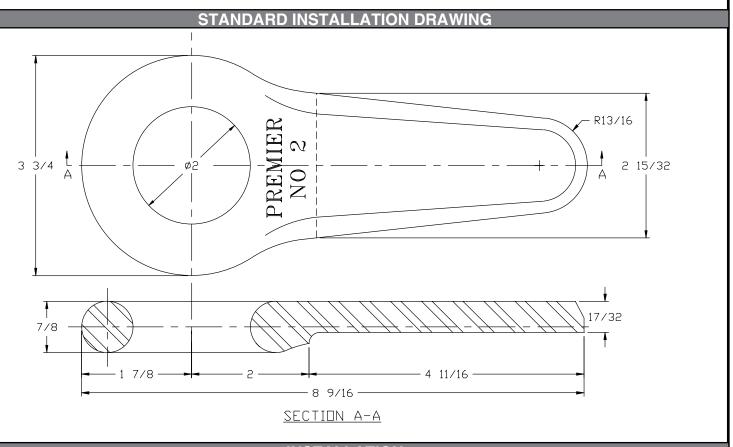
**CAUTION:** Verify that both the coupling's and drawbar eye's rated capacities meet your application(s) requirements.

#### Model 2 Weld-On Drawbar Eye

#### SPECIFICATIONS AND LOAD CAPACITIES

#### SAFETY WARNING

This product is designed for towing under normal conditions within the stated gross trailer weight. Do not overload or abuse this product. Overloading or abuse may lead to property damage, severe injury, or death. Max. Gross Trailer Weight: 12,000 lbs. (5,443 kg)
Maximum Tongue Weight: 1,800 lbs. (816 kg)
Inside Diameter: 2 in. (51 mm)
Unit Weight: 3 lbs. (1.4 kg)



#### **INSTALLATION**

#### **Installation Procedure**:

- 1. The 2 Drawbar Eye must be installed to comply with the Federal Motor Carrier Safety Regulations. Specifically, Section 393.70, Paragraph C: "Towing of Full Trailers." Prior to install or operation, consult with local, State and Federal agencies, as there may be additional applicable laws governing installation and use of this product.
- One of the three attached Welding Procedure Specifications; GMAW, SMAW or FCAW, must be followed. Welding should only be performed by a certified welder skilled in structural welding practices.

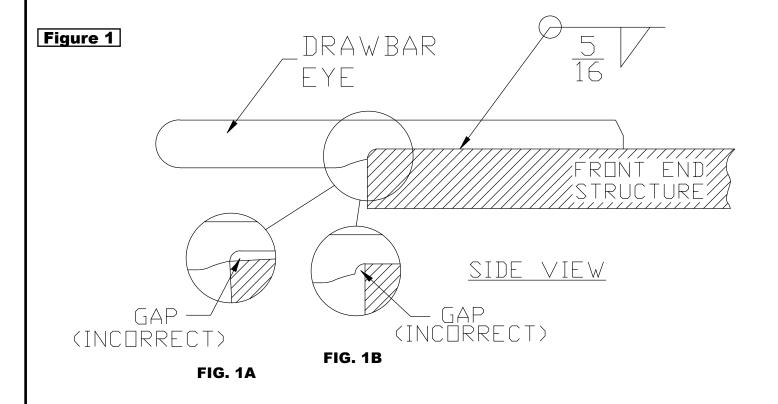
- 3. All weld locations must be clean, paint free and void of any moisture, oil, grease, oxides or loose or thick scale.
- 4. Fit-up, between the front end structure and the mounting surface of the 2 Drawbar Eye, must be flush as shown in Figure 1. Failure to have a flush fit prior to welding will cause the capacities to be negatively affected. Figures 1A and 1B show possible examples of an improper fit-up that must be avoided.
- 5. Attach the 2 Drawbar Eye to the front end structure with a minimum 5/16" fillet weld that encompasses the entire interface between the drawbar eye and front end structure, as shown in Figure 1.



#### Model 2 Weld-On Drawbar Eye

#### INSTALLATION

 "IMPORTANT WARNINGS!" sticker was enclosed. This must be attached to the front end, adjacent to the drawbar eye, visible for the end user to read.



#### **INSPECTION / OPERATION / MAINTENANCE**

- Visually inspect the drawbar eye for cracks, impact damage and/or deformation before each and every use. Do NOT use if any of these conditions exist.
- If the original cross-section of the eye loop has been reduced by 20% or greater, the drawbar eye is NOT to be used and is considered outof-service.
- 3. This product is designed to be operated within its free rotation limits. It is the responsibility of

- the vehicle designer/end user to assure that these limits are not exceeded (not binding/ jackknife).
- WARNING: Prior to towing, make certain that adequately rated safety chains have been properly connected.
- 5. Never weld on any Premier drawbar eye in order to repair damaged or worn areas. Field and/or shop weld repairs are inadequate and may further weaken the drawbar eye.

#### **IMPORTANT GUIDELINES that apply to all Premier Weld-On Drawbar Eyes**

- Never attempt weld repair of damaged or worn drawbar eyes
- Air adjusted drawbar eyes must be used with an air service chamber or #500 slack adjuster
- Clean and inspect drawbar eyes and eye assemblies for damage or excessive wear before each and every use
- Structure to which eye is attached must be of sufficient strength to withstand load rating of eye
- All welds for attaching eye should be done by a certified welder skilled in structural welding
- Do not bind-up (Jackknife) any application as stresses can cause damage to products or components, resulting in failure and detachment of the trailer while in use
- Do not apply lubricants to the coupling hook or drawbar eye loop, as they can cover up possible damage and accelerate wear



#### Model 2 Weld-On Drawbar Eye

#### WELDING PROCEDURES

WELDING PROCEDURE SPECIFICATION (WPS) Yes (X)
PREQUALIFIED (X) QUALIFIED BY TESTING (X) or PROCEDURE
QUALIFICATION RECORD (PQR) Yes (X)

|                             | GMAW                        | Identification #: P                         |                              |   |               |  |  |  |  |
|-----------------------------|-----------------------------|---|------------------------------|---|---------------|--|--|--|--|
| 2                           | SIVIAVV                     | Revision 0                                  | Date: 2/1/0                  | By: PI  |               |  |  |  |  |
| Company Name: Premie        | r Manufacturing Co.         | Authorized By:                              |                              | Semi-Automatic: (X) Automatic:  Filet: 1F, 2F Down ( )  iting ( )  Weave 9): Single, Multiple  ongitudinal: ateral: ngle: |               |  |  |  |  |
| Welding Process(es): GN     | MAW                         | Type: Manual:                               |                              | Semi-Aut  | omatic: (X)   |  |  |  |  |
| Supporting PQR No.(s):      | N/A Prequalified            | Machine:                                    |                              | Automatic   | ;             |  |  |  |  |
| JOINT DESIGN USED           |                             | POSITION                                    |                              |   |               |  |  |  |  |
| Type: All Fillets, Butts (S | ee Attached)                | Position of Groov                           | e: 1G, 2G                    |   | Filet: 1F, 2F |  |  |  |  |
| Single (X)                  | Double Weld (X)             | Vertical Progress                           | Vertical Progression: Up (X) |   |               |  |  |  |  |
| Backing: Yes (X)            | No (X)                      | LECTRICAL CH                                | ARACTERISTICS                | 6   |               |  |  |  |  |
| Backing Material: M1-P1     | -S1 Group 1 &2              | Transfer Mode (C                            | SMAW) short-circ             | uiting ( )  |               |  |  |  |  |
| Root Opening:               | Root Face Dimension:        | Globular (X) Spray (X)                      |                              |   |               |  |  |  |  |
| Groove Angle:               | Radius (J-U):               | Current: AC ( ) DCEP(X) DCEN ( ) Pulsed ( ) |                              |   |               |  |  |  |  |
| Back Gouging: Yes (X)       | No (X) Method: Mech/Thermal | Other:                                      |                              |   |               |  |  |  |  |
| BASE METALS                 |                             | TECHNIQUE                                   |                              |   |               |  |  |  |  |
| Material Spec.: M1-P1-S     | 1 1026 Carbon Steel         | Stringer or Weav                            | e Bead: String or            | Weave   |               |  |  |  |  |
| Type or Grade: Group 1      | & 2                         | Multi-Pass or Sin                           | gle Pass (per sid            | e): Single, I   | Multiple      |  |  |  |  |
| Thickness: Groove: 1/8 -    | 1 1/8" Fillet: Unlimited    | Number of electrodes: Single                |                              |   |               |  |  |  |  |
| Diameter (Pipe): 4" minir   | num                         | Electrode Spacin                            | g: L                         | Longitudinal:   |               |  |  |  |  |
| FILLER METALS               |                             |   | L                            | ateral:   |               |  |  |  |  |
| AWS Specification: A5.1     | 8                           |   | Α                            | ingle:  |               |  |  |  |  |
| AWS Classification: E70     | S-1                         | Contact Tube to                             | Work Distance: 3             | /4" ±1/8"   |               |  |  |  |  |
| SHIELDING                   |                             | Peening: Recommended                        |                              |   |               |  |  |  |  |
| Flux:                       | Gas: CO <sup>2</sup>        | Interpass Cleaning: Mechanical              |                              |   |               |  |  |  |  |
|                             | Composition: 100%           | POSTWELD HEA                                | AT TREATMENT                 |   |               |  |  |  |  |
| Electrode-Flux (Class)      | Flow Rate: 30-50 cfh        | Temp.:                                      |                              |   |               |  |  |  |  |
|                             | Gas Cup Size: 1/2" Dia.     | Time:                                       |                              |   |               |  |  |  |  |
| PREHEAT                     |                             |   |                              |   |               |  |  |  |  |
| Preheat Temp.: Min.: 10     | 0°F                         |   |                              |   |               |  |  |  |  |
| Interpass Temp.: Min. 10    | 00°F Max.: 500°F            |   |                              |   |               |  |  |  |  |

#### WELDING PROCEDURE

|                             |         | Filler N | Metals | Cu                 | rrent                         |       |                 | Joint Details |
|-----------------------------|---------|----------|--------|--------------------|-------------------------------|-------|-----------------|---------------|
| Pass or<br>Weld<br>Layer(s) | Process | Class    | Diam.  | Type &<br>Polarity | Amps or<br>Wire Feed<br>Speed | Volts | Travel<br>Speed | See Attached  |
| All                         | GMAW    | E70S-X   | 0.035  | DCEP               | 190-230                       | 22-31 | 13 ±1 IPM       |               |
| All                         | GMAW    | E70S-X   | 0.045  | DCEP               | 260-290                       | 27-31 | 13 ±1 IPM       |               |

## WELDING PROCEDURE SPECIFICATION (WPS) Yes (X) PREQUALIFIED (X) QUALIFIED BY TESTING () or PROCEDURE QUALIFICATION RECORD (PQR) Yes ()

|                              | NA ANA/                    | Identification #: PMSMA-1                             |                                    |                   |            |  |  |  |
|------------------------------|----------------------------|---|------------------------------------|-------------------|------------|--|--|--|
| <u>S</u>                     | <u>MAW</u>                 | Revision 0  | Date: 2/1/0                        | 00                | By: PI     |  |  |  |
| Company Name: Premier        | Manufacturing Co.          | Authorized By:  |                                    |                   | Date:      |  |  |  |
| Welding Process(es): SM.     | AW                         | Type: Manual: (X                                      | )                                  | Semi-             | Automatic: |  |  |  |
| Supporting PQR No.(s): N     | I/A (Pre-Qualified)        | Machine:  | Machine: 1 Automatic:              |                   |            |  |  |  |
| JOINT DESIGN USED            |                            | POSITION  | 1                                  |                   |            |  |  |  |
| Type: All Fillets-Butts (See | Attached)                  | Position of Groov                                     | e: All                             | Fil               | llet: All  |  |  |  |
| Single (X)                   | (X) Double Weld (X)        |   | ion: Up (X)                        | Do                | own ( )    |  |  |  |
| Backing: Yes (X)             | No (X)                     | ELECTRICAL CH   | ARACTERISTIC                       | s                 |            |  |  |  |
| Backing Material: M1-P1-     | S1, Group 1 & 2            | Transfer Mode (G                                      | MAW) short-circu                   | ilting ( )        |            |  |  |  |
| Root Opening:                | Root Face Dimension:       | Globular ( ) Spra                                     | ay() .                             |                   |            |  |  |  |
| Groove Angle:                | Radius (J-U):              | Current: AC ( ) DCEP (X) DCEN ( ) Pulsed ( )          |                                    |                   |            |  |  |  |
| Back Gouging: Yes (X) N      | o (X) Method: Mech/Thermal | Other:  |                                    |                   |            |  |  |  |
| BASE METALS                  |                            | TECHNIQUE   |                                    |                   |            |  |  |  |
| Material Spec.: M1-P1-S1     | 1026 Carbon Steel          | Stringer or Weave                                     | Bead: String and                   | Weave             |            |  |  |  |
| Type or Grade: Group 1 a     | nd 2                       | Multi-Pass or Single Pass (per side): Multiple/Single |                                    |                   |            |  |  |  |
| Thickness: Groove: 1/8"-1    | 1/2 Fillet: Unlimited      | Number of electrodes: Single                          |                                    |                   |            |  |  |  |
| Diameter (Pipe): 4" Minim    | um                         | Electrode Spacing                                     | g: Longitud                        | Longitudinal: N/A |            |  |  |  |
| FILLER METALS                |                            |   | Lateral:                           | Lateral: N/A      |            |  |  |  |
| AWS Specification, A5.1 -    | A5.5                       |   | Angle: N/A                         |                   |            |  |  |  |
| AWS Classification: E701     | 8                          | Contact Tube to V                                     | Contact Tube to Work Distance: N/A |                   |            |  |  |  |
| SHIELDING                    |                            | Peening: Recommended                                  |                                    |                   |            |  |  |  |
| Flux:                        | Gas: N/A                   | Interpass Cleaning: Mechanical Only                   |                                    |                   |            |  |  |  |
|                              | Composition: N/A           | POSTWELD HEA  | T TREATMENT                        |                   |            |  |  |  |
| Electrode-Flux (Class)       | Flow Rate: N/A             | Temp.: N/A  |                                    |                   |            |  |  |  |
|                              | Gas Cup Size: N/A          | Time: N/A   |                                    |                   |            |  |  |  |
| PREHEAT                      | 4                          |   |                                    |                   |            |  |  |  |
| Preheat Temp. Min.: 100°     |                            |   |                                    |                   |            |  |  |  |
| Interpass Temp., Min.: 100   | 0°F Max.: 500°F            |   |                                    |                   |            |  |  |  |
|                              |                            |   |                                    |                   |            |  |  |  |

#### WELDING PROCEDURE

|                             |         | Filler | Metals | Cui                | rrent                           |       | [ ·             | Joint Details                | 1 |
|-----------------------------|---------|--------|--------|--------------------|---------------------------------|-------|-----------------|------------------------------|---|
| Pass or<br>Weld<br>Layer(s) | Process | Class  | Diam.  | Type &<br>Polarity | (Amps) or<br>Wire Feed<br>Speed | Volts | Travel<br>Speed | See Attached And<br>AWS D1.1 | ŀ |
| All                         | SMAW    | E7018  | 3/32"  | DCEP               | 70-110                          | 19-22 | As              | 1                            |   |
| All                         | SMAW    | E7018  | 1/8"   | DCEP               | 90-150                          | 20-24 | Required        |                              |   |
| Ali                         | SMAW    | E7018  | 5/32"  | DCEP               | 120-190                         | 20-24 |                 |                              | J |

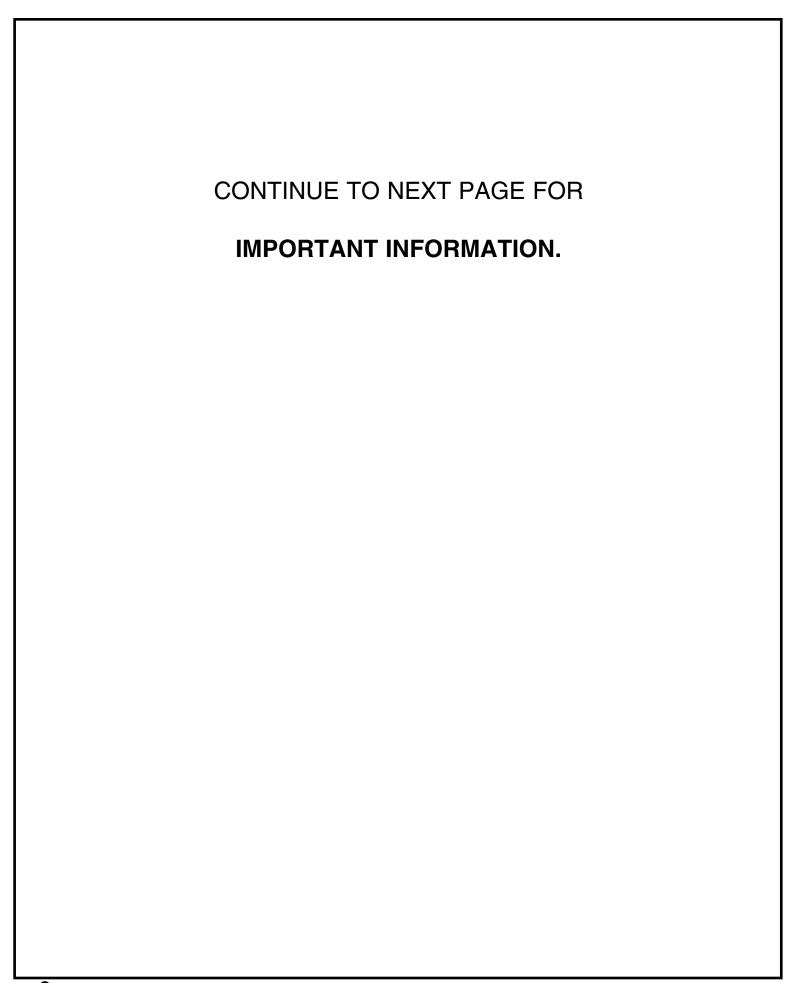
## WELDING PROCEDURE SPECIFICATION (WPS) Yes (X) PREQUALIFIED (X) QUALIFIED BY TESTING ( ) or PROCEDURE QUALIFICATION RECORD (PQR) Yes ( )

|                              |         |                          | Identification #: PMFC-1                              |                |             |           |  |  |  |
|------------------------------|---------|--------------------------|---|----------------|-------------|-----------|--|--|--|
|                              | FC/     | <u>\W</u>                | Revision 0 Date: 2/1/00 By: PI                        |                |             |           |  |  |  |
| Company Name: Premier        | Manufa  | aturina Ca               | Authorized By:  | Date:          |             |           |  |  |  |
| Welding Process(es): FCA     | _       | atuning Co.              | Type: Manual: (X) Semi-Automatic:                     |                |             |           |  |  |  |
| Supporting PQR No.(s): N     |         | Ouglified)               | Type: Manual: (X) Semi-Automati  Machine: Automatic:  |                |             |           |  |  |  |
| JOINT DESIGN USED            | A (Fie- | Quanieu)                 | POSITION  |                | 7totot lati | ·-        |  |  |  |
| Type: All Fillets-Butts (See |         | - 4\                     | Position of Groove: All                               |                | le:         | llet: All |  |  |  |
|                              |         |                          | Vertical Progression: U                               | - (V)          |             | own ( )   |  |  |  |
| Single (X)                   | Not     | ible Weld (X)            | ELECTRICAL CHARA                                      | 1 1 /          | 1 /         |           |  |  |  |
| Backing: Yes (X)             | `       |                          |   |                |             |           |  |  |  |
| Backing Material: M1-P1-S    |         |                          | Transfer Mode (GMAW                                   | ) snort-circui | ung ( )     |           |  |  |  |
| Root Opening:                |         | ot Face Dimension:       | Globular (X) Spray (X)                                |                |             |           |  |  |  |
| Groove Angle:                |         | flus (J-U):              | Current: AC ( ) DCEP                                  | :d ( )         |             |           |  |  |  |
| Back Gouging: Yes (X) N      | o (X) M | ethod: Mech/Thermal      | Other:  |                |             |           |  |  |  |
| BASE METALS                  |         |                          | TECHNIQUE   |                |             |           |  |  |  |
| Material Spec.: M1-P1-S1     | 1026 C  | arbon Steel              | Stringer or Weave Bear                                | d: String and  | Weave       |           |  |  |  |
| Type or Grade: Group 1 a     | nd 2    |                          | Multi-Pass or Single Pass (per side): Multiple/Single |                |             |           |  |  |  |
| Thickness: Groove: 1/8"-1    | 1/2"    | Fillet: Unlimited        | Number of electrodes: Single                          |                |             |           |  |  |  |
| Diameter (Pipe): 4" Minim    | um      |                          | Electrode Spacing:                                    | Longitud       | inal: N/A   |           |  |  |  |
| FILLER METALS                |         |                          |   | Lateral:       | N/A         |           |  |  |  |
| AWS Specification: A5.20     |         |                          |   | Angle: N       | /A          |           |  |  |  |
| AWS Classification: E70T     | -1/E71T | -1                       | Contact Tube to Work Distance: 3/4" ±1/4"             |                |             |           |  |  |  |
| SHIELDING                    |         |                          | Peening: Recommended                                  |                |             |           |  |  |  |
| Flux:                        | Gas     | s: CO <sup>2</sup>       | Interpass Cleaning: Me                                | chanical Only  | y           |           |  |  |  |
|                              | Cor     | nposition: 100%          | POSTWELD HEAT TR                                      | EATMENT        |             |           |  |  |  |
| Electrode-Flux (Class)       | Flo     | w Rate: 30-50 cfh        | Temp.: N/A  |                |             |           |  |  |  |
|                              | Gas     | Cup Size: 1/2" Dia. Min. | Time: N/A   |                |             |           |  |  |  |
| PREHEAT                      |         |                          |   |                |             |           |  |  |  |
| Preheat Temp.: Min.: 100     | °F      |                          |   |                |             |           |  |  |  |
| InterpassTemp.: Min. 100     | °F      | Max.: 500°F              |   |                |             |           |  |  |  |

#### WELDING PROCEDURE

|                             |         | Filler | Metals | Cu                | rrent                           |       |                 | Joint Details       |
|-----------------------------|---------|--------|--------|-------------------|---------------------------------|-------|-----------------|---------------------|
| Pass or<br>Weld<br>Layer(s) | Process | Class  | Diam.  | Type&<br>Polarity | (Amps) or<br>Wire Feed<br>Speed | Volts | Travel<br>Speed | See Attached<br>And |
| All                         | FCAW    | E70T-1 | 0.045  | DCEP              | 180-280                         | 24-28 | As              | AWS D1.1            |
| All                         | FCAW    | E71T-1 | 0.052  | DCEP              | 190-300                         | 24-29 | Required        |                     |
| All                         | FCAW    |        | 0.068  | DCEP              | 210-350                         | 24-29 | 1               |                     |
| All                         | FCAW    |        | 5/64"  | DCEP              | 250-400                         | 26-30 | 7               |                     |





## **ATTENTION!**

#### End Users must read and follow this information.

DISTRIBUTORS & OEM'S: Please ensure that your customers are made aware of the following information on this page.

- (1) VERIFY THAT BOTH COUPLING'S AND DRAWBAR EYE'S RATED CAPACITIES MEET YOUR APPLICATION(S) REQUIREMENTS.
- (2) DO NOT OVERLOAD COUPLING OR DRAWBAR EYE.
- (3) INSPECT COUPLING, LATCH AND DRAWBAR EYE FOR CRACKS, BENDING DAMAGE OR EXCESSIVE WEAR. **DO NOT USE IF ANY OF THESE CONDITIONS EXIST!**
- (4) CHECK FOR GAP BETWEEN CLOSED LATCH AND TOP OF HORN OR COUPLING BALL.

  DO NOT USE IF GAP IS 3/8 IN. OR MORE.
- (5) MAKE SURE COUPLING IS LATCHED AND THAT LATCH WILL NOT OPEN.
- (6) PRIOR TO USE, ALWAYS CONNECT SAFETY CHAINS OF ADEQUATE STRENGTH FOR LOAD(S) BEING TOWED.
- (7) DO NOT BIND-UP (JACKKNIFE) ANY
  APPLICATION AS STRESSES CAN CAUSE
  DAMAGE TO THE COUPLING, DRAWBAR EYE,
  OTHER COMPONENTS OR ANY COMBINATION
  OF THEM. JACKKNIFING MAY RESULT IN
  FAILURE OF PRODUCTS OR COMPONENTS,
  RESULTING IN DETACHMENT OF THE TRAILER
  WHILE IN USE.

- (8) DO NOT APPLY LUBRICANTS TO THE COUPLING HOOK OR DRAWBAR EYE LOOP, AS THEY CAN COVER UP POSSIBLE DAMAGE AND ACCELERATE WEAR.
- (9) ALWAYS ABIDE BY ALL APPLICABLE STATE AND FEDERAL REGULATIONS GOVERNING SAFE AND PROPER TRANSPORTATION.
- (10) NEVER STRIKE ANY OF THESE COMPONENTS WITH A HAMMER OR ANY OTHER DEVICE.
- (11) ALWAYS VERIFY PROPER OPERATION
  OF LATCHING SYSTEM AND COUPLING
  COMPONENTS PRIOR TO DRIVE OFF.
- (12) NEVER USE A COUPLING THAT YOU DO NOT FULLY UNDERSTAND HOW TO PROPERLY OPERATE AND VERIFY SECURE LATCHING OF.
- (13) NEVER REPLACE ANY PART IN ANY OF PREMIER'S ASSEMBLIES WITH NON-PREMIER COMPONENTS. DOING SO WILL VOID ALL WARRANTY AND POTENTIALLY COMPROMISE THE UNIT'S INTEGRITY, WHICH COULD RESULT IN PROPERTY DAMAGE, SERIOUS INJURY, OR DEATH.

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Revised: 04/09

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