

# Replacement Parts Guide

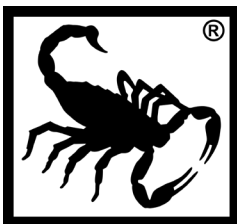
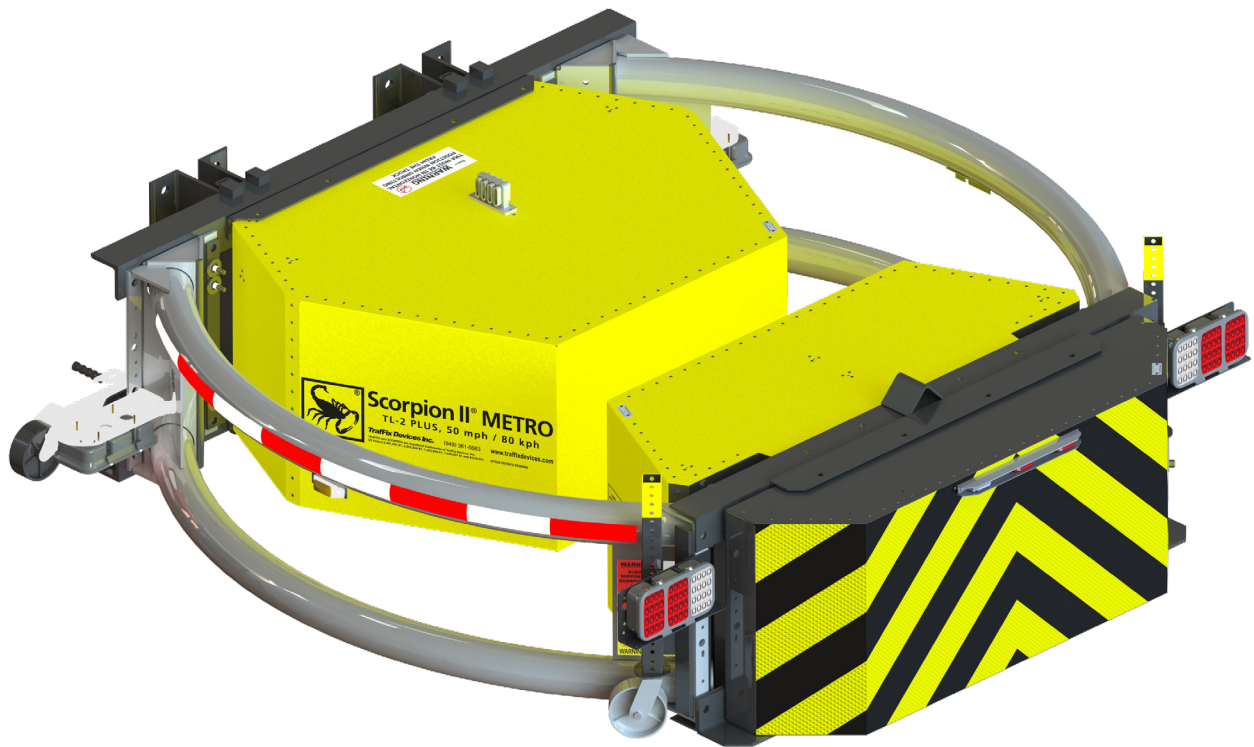
*For TraFFix MASH Scorpion II® METRO TMA*

**TraFFix**  
**Devices Inc.**   
*Engineered Products for Safer Highways*

**MASH**  <sup>®</sup>

Manual for Assessing Safety Hardware

**TESTED, PASSED AND ELIGIBLE**



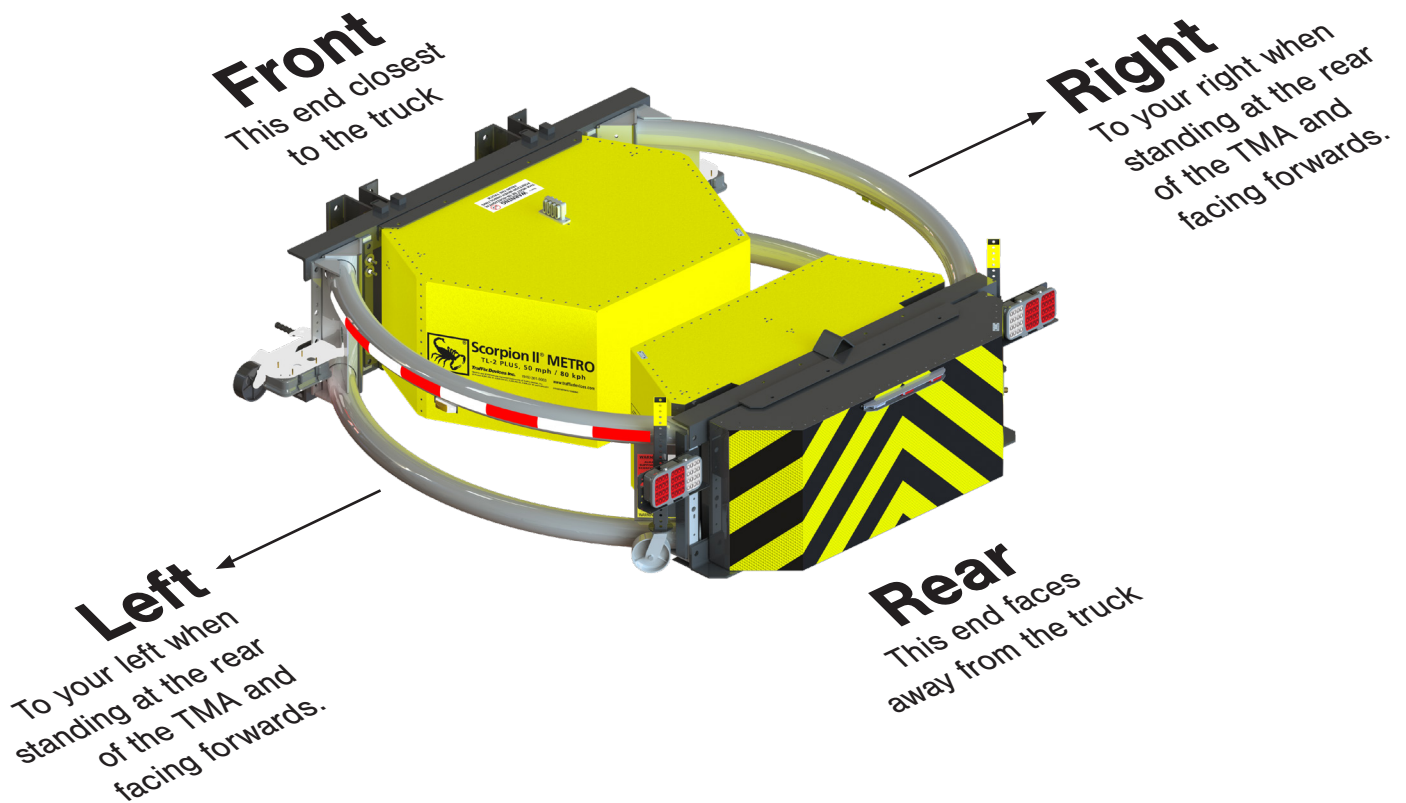
## Scorpion II® METRO

TL-2 PLUS, 50 mph / 80 kph

*High Pivot*

# Overview & Orientation

## *MASH Scorpion II® METRO Truck Mounted Attenuator*



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## MASH Scorpion II METRO® TMA Replacement Parts Guide

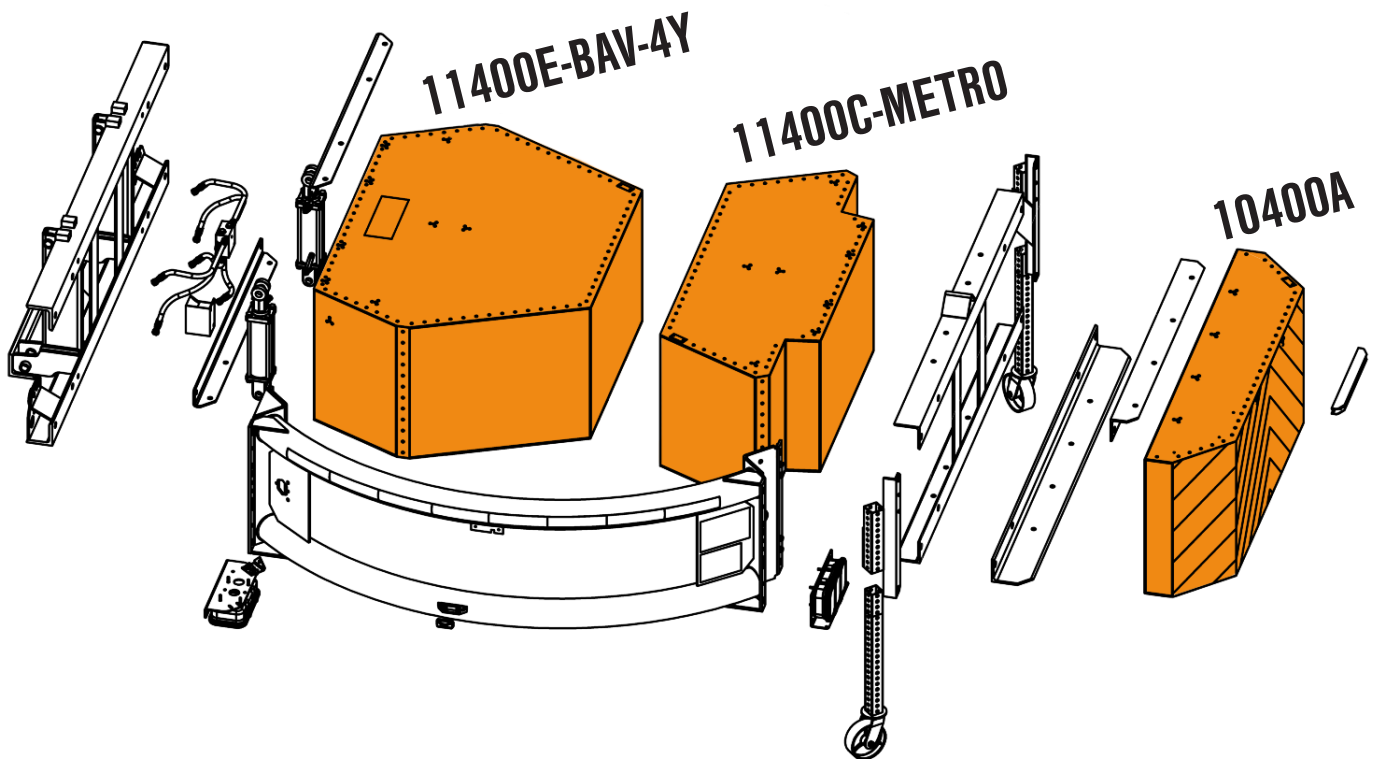
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# Energy-Absorbing Modules

*For TraFFix MASH Scorpion II® METRO TMA*

## *Module Placement*

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*Components Removed for Clarity.*



# Energy-Absorbing Modules

*For TraFFix MASH Scorpion II® METRO TMA*



## **11400E-BAV-4Y**

### Module E

*Energy-Absorbing Module*

*Includes Scorpion Logo  
and 4" Yellow Sheeting*

*Includes Hardware*

*Scorpion II METRO Only*

*\*Other Sheeting Options  
Available upon Request*



## **11400C-METRO**

### Module C

*Energy absorbing Module*

*Includes Hardware*

*Scorpion II METRO Only*



## **10400A**

### Module A

*Energy absorbing Module*

*with 4" Yellow Sheeting*

*Includes Hardware*

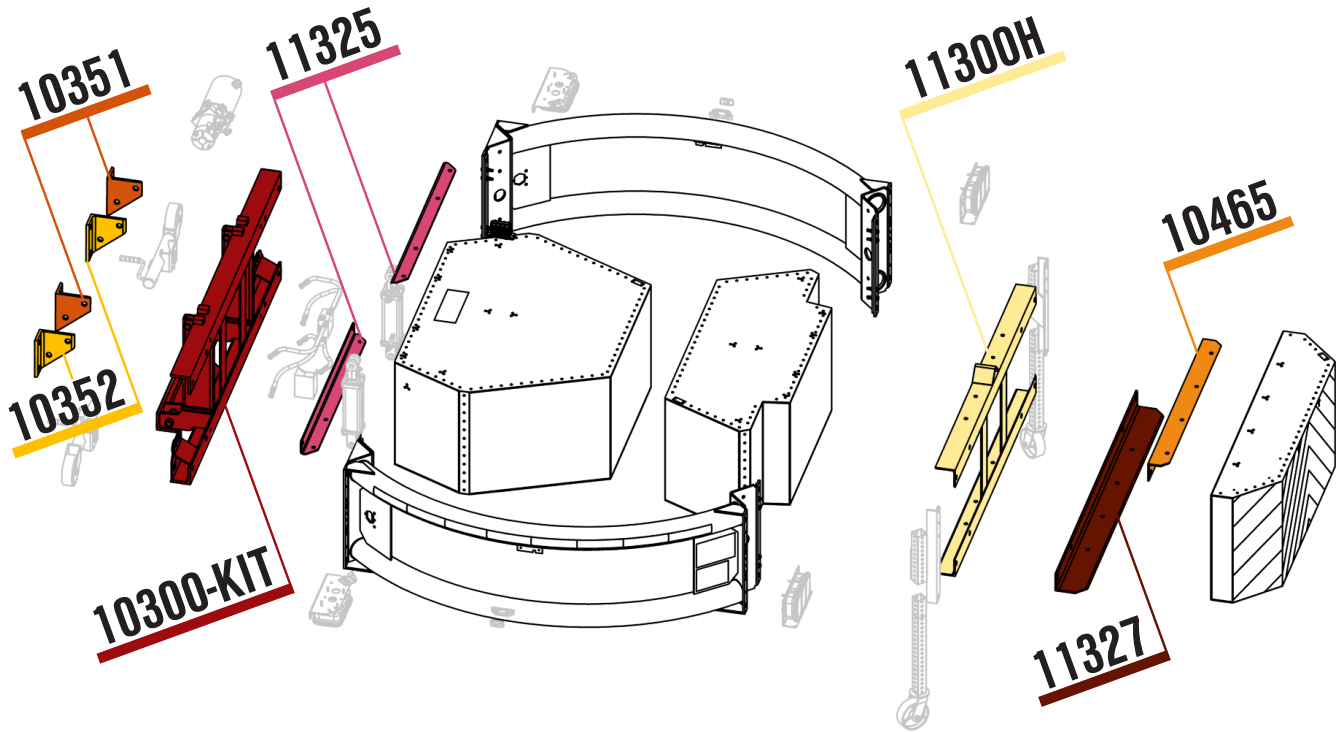
*\*Other Sheeting Options Available, see p28.*



# Diaphragms and Angles

For *TraFFix MASH Scorpion II® METRO TMA*

## Placement in METRO TMA



*Components Removed for Clarity.*

## TMA Mounting Brackets

*These attach the TMA to the host truck.*

**10352**

*Left*



**10351**

*Right*



## **10300-KIT** Backup Frame



*Includes 12017 and 12015-6.0 Pins.*



**11325**

Front Angle

*Attaches to Module E*



*Scorpion II METRO TMA Only*



**11300H**

Diaphragm

*Rear of Module C*



**10465**

Rear Top Angle

*Attaches to Module A*



**11327**

Rear Bottom Angle

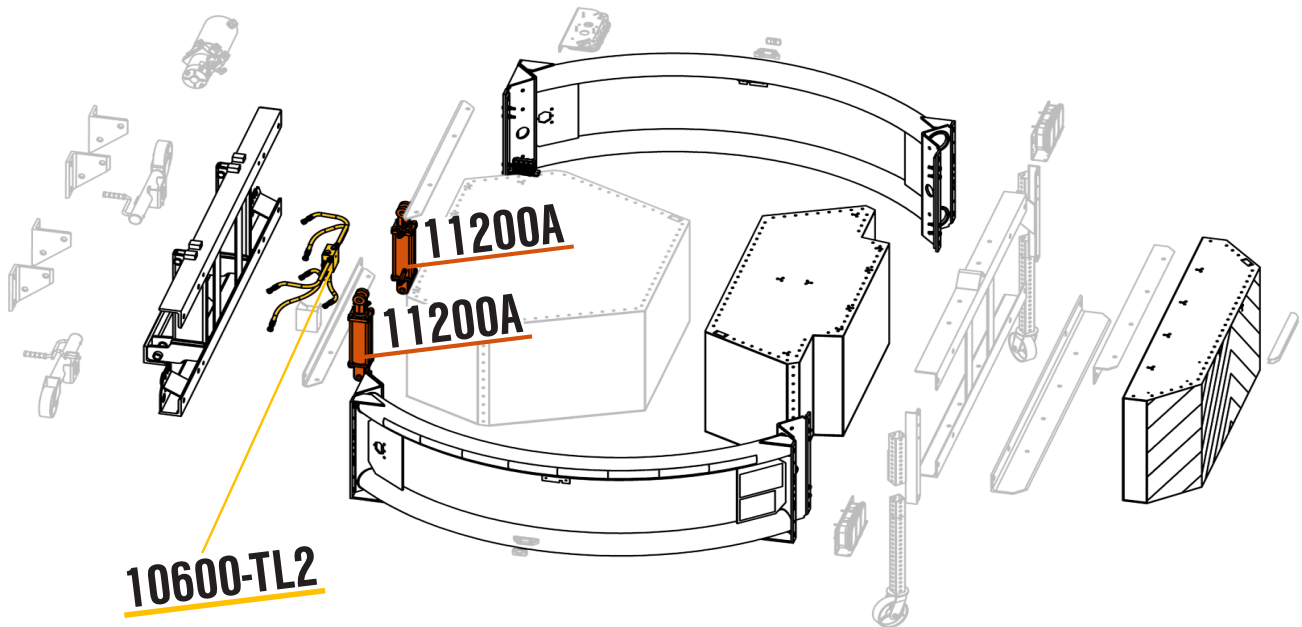
*Attaches to Module A*

# Hydraulics and Cylinder

For *TraFFix MASH Scorpion II® METRO TMA*

## Cylinder Placement

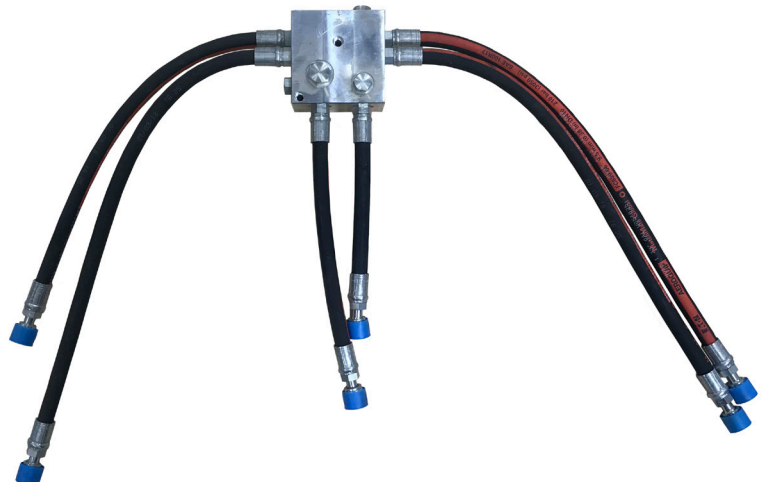
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*Components Removed for Clarity.*

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## **10600-TL2** Hydraulic Hose Kit





# **11200A**

## Strut Cylinder - 3"



**10663**  
90° Fitting

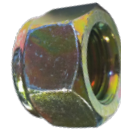
**10661**  
Velocity Fuse

**10662**  
90° Fitting

## Hardware for 11200A

*Not Included*

*Must be ordered separately*



**12012**  
Locknut



**12011**  
Bolt, 5-1/2"



**10640-01**  
Seal Kit, TH, 3"

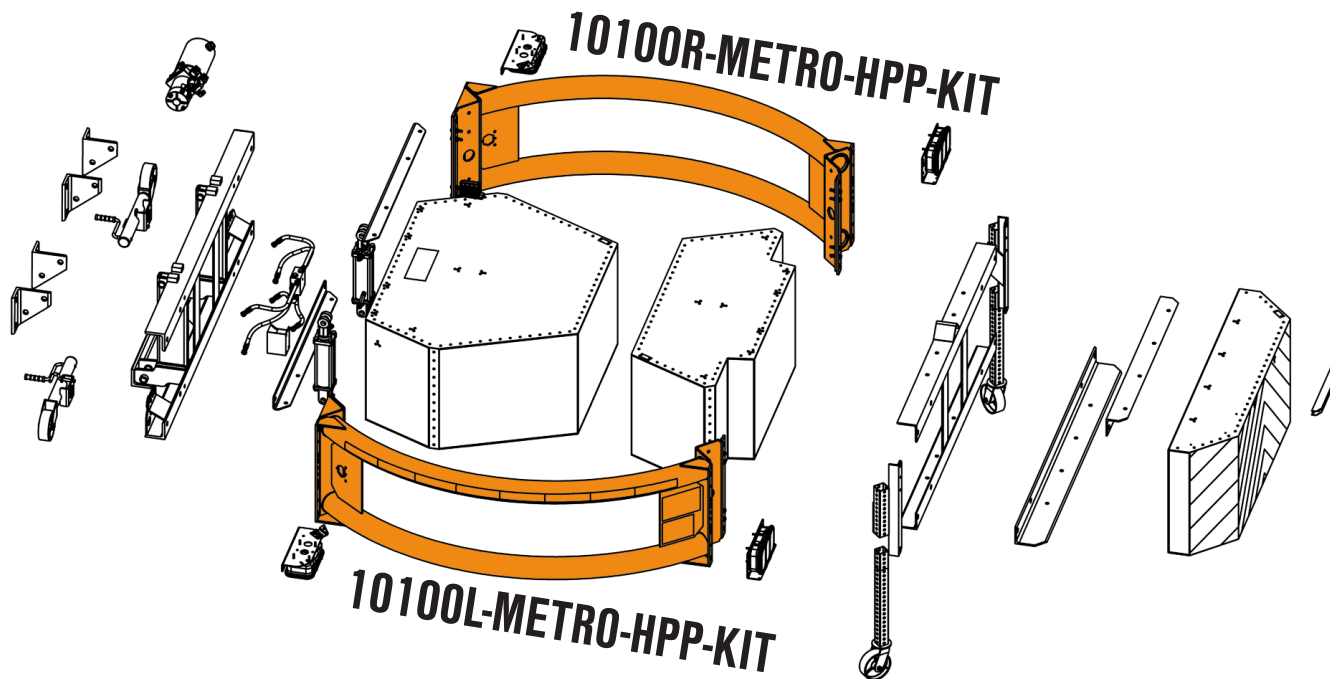
**12017**  
Hairpin



**12015-6.0**  
Clevis Pin, 6"

# Replacement Tubes

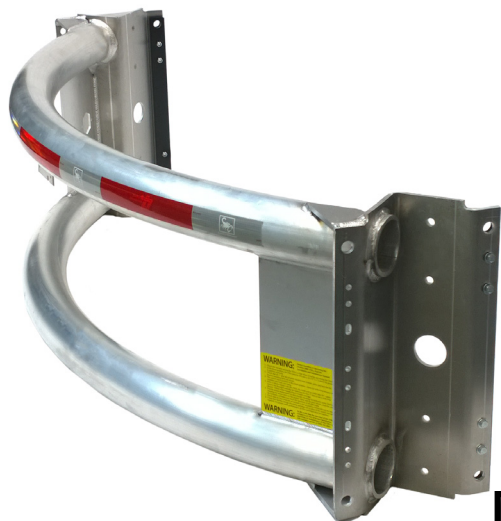
*For TraFFix MASH Scorpion II® METRO TMA*



*Components Removed for Clarity.*

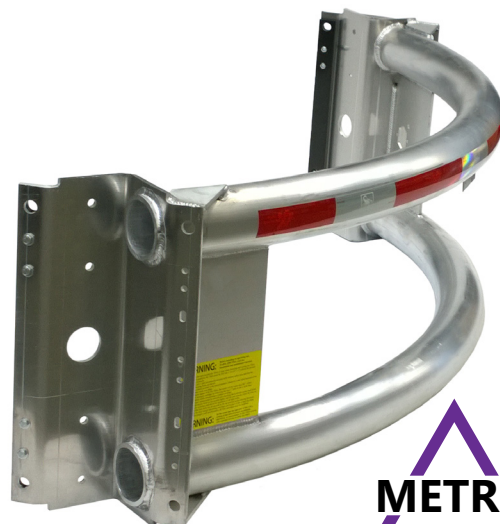
## 10100L-METRO-HPP-KIT

*METRO Left Tube*



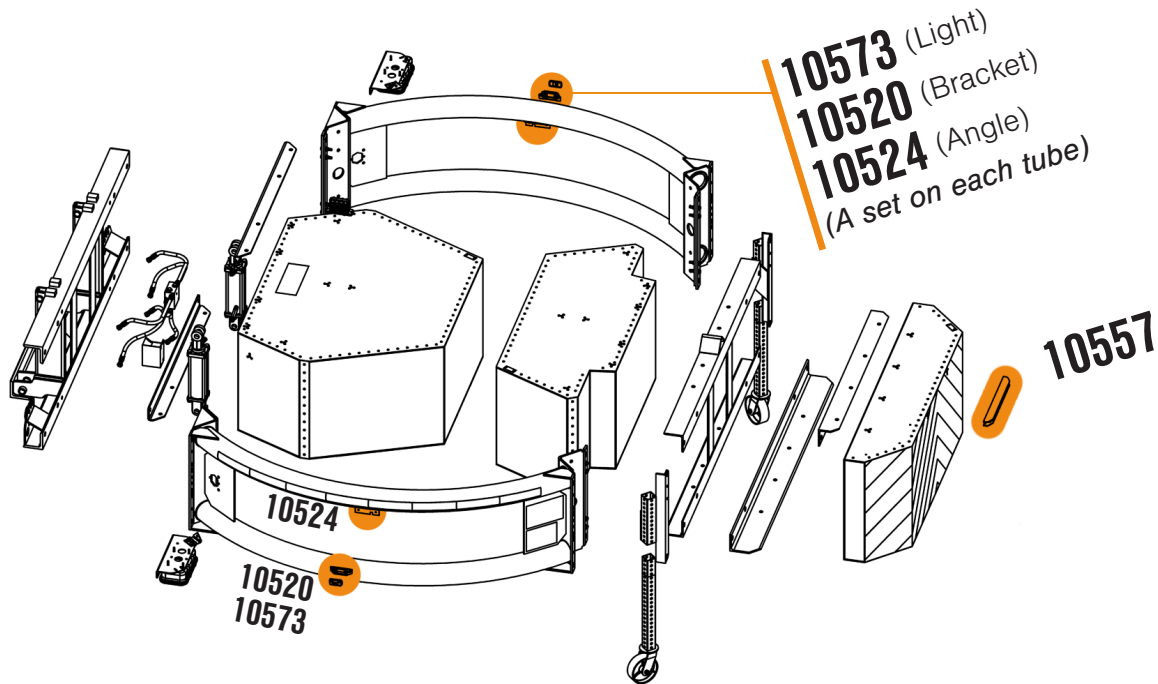
## 10100R-METRO-HPP-KIT

*METRO Right Tube*



# Visibility Lights

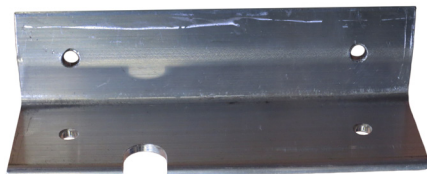
*For TraFFix MASH Scorpion II® METRO TMA*



*Components Removed for Clarity.*

## 10524

*Angle, Side Marker Light*



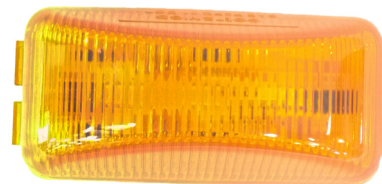
## 10520

*Bracket, Side Marker Light*



## 10573

*Side Marker Light, Amber, LED, Multivolt*



## 10557

*ICC Bar Light, LED, 12 Volt Only*

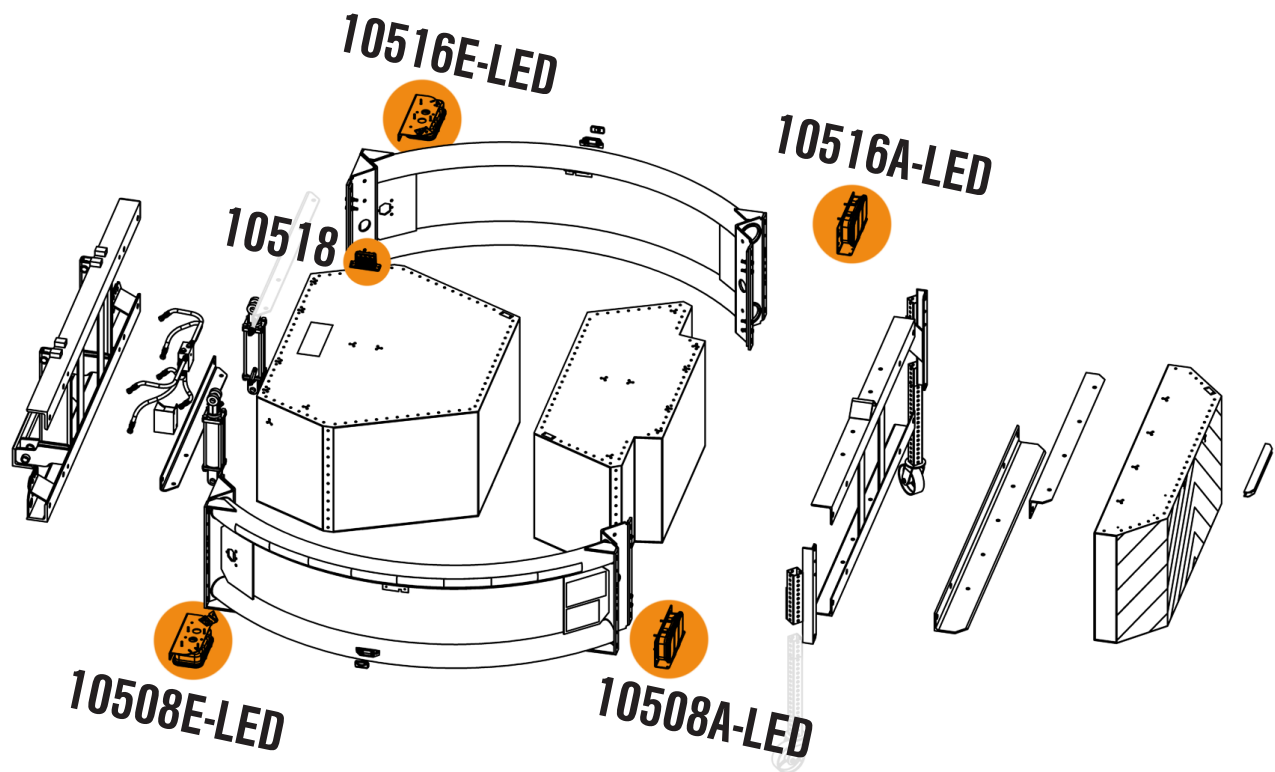




# Tail Lights and Junction

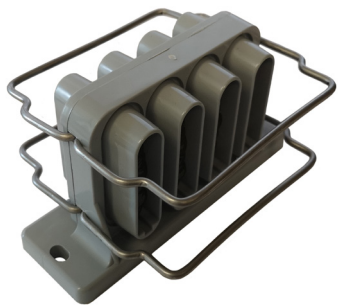
For *TraFFix MASH Scorpion II® METRO TMA*

## Tail Light and Junction Placement

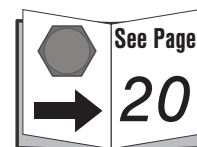


*Components Removed for Clarity.*

**10518**  
Junction Box



For cables, see  
*Light Wiring*  
on Page 20.



# Tail Lights

**For TraFix MASH Scorpion II® METRO TMA**

## **10508E-LED**

*Left Tail Light,  
For Stored Position*



## **10516E-LED**

*Right Tail Light,  
For Stored Position*



## **10508A-LED**

*Left Tail Light,  
For Deployed Position*

## **10516A-LED**

*Right Tail Light,  
For Deployed Position*



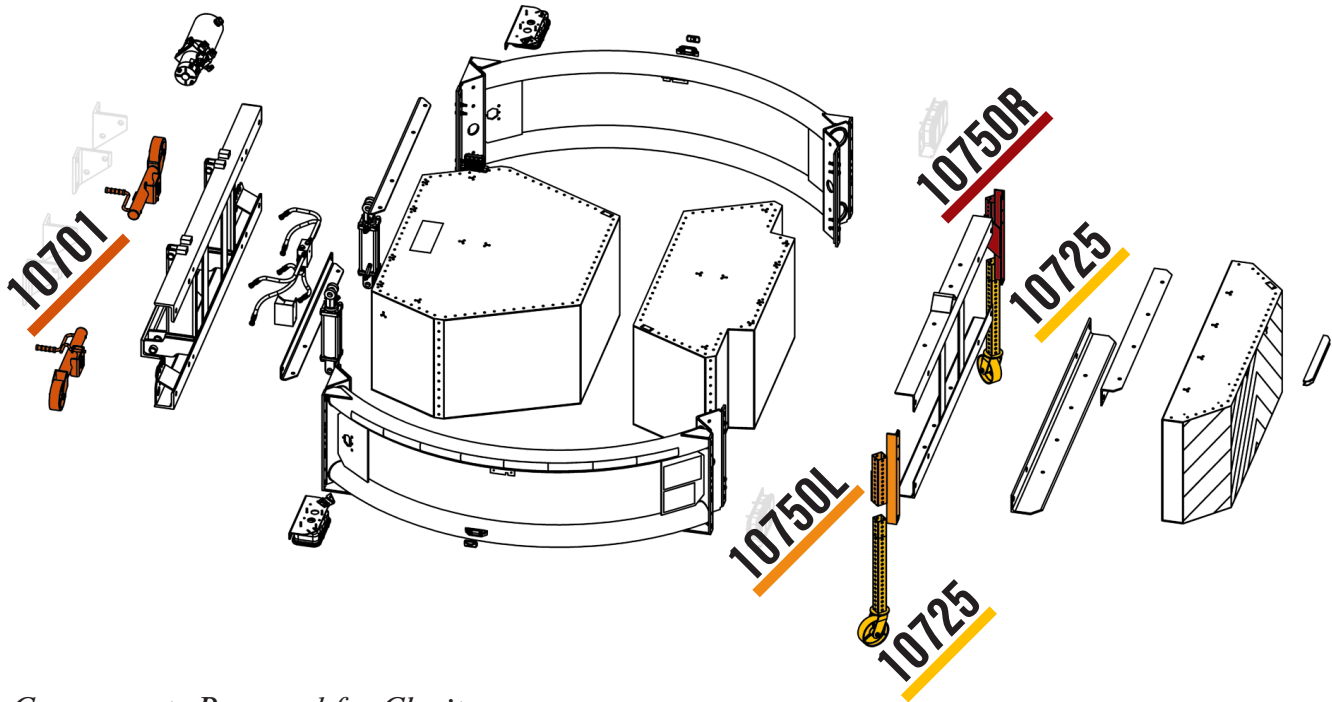
*For Tail Light Hardware,  
see pages 22-25.*

*For Tail Light Configurations,  
see page 27.*

# Replacement Jacks

*For TrafFix MASH Scorpion II® METRO TMA*

## Jack Placement



*Components Removed for Clarity.*

## Drop Jack Mounting Brackets

*These attach the drop jacks to the TMA.*



**10750L**

*Left Bracket,  
Drop Jack*

**10750R**

*Right Bracket,  
Drop Jack*



## Swivel Jack

Choose from either *Light Duty* or *Heavy Duty*.

Both are universal (suitable for left or right placement).

**10701**

*Light Duty Swivel Jack*  
(Standard)



**10701MNJ**

*Heavy Duty Swivel Jack*  
Required for TMAs with Extension Frames.



**OR**

**10702**

*Snap Ring*  
for Swivel Jack



*Lock Pin,*  
*Square Retainer*

**90005-LP**

## Drop Jack

Universal (suitable for left or right placement).

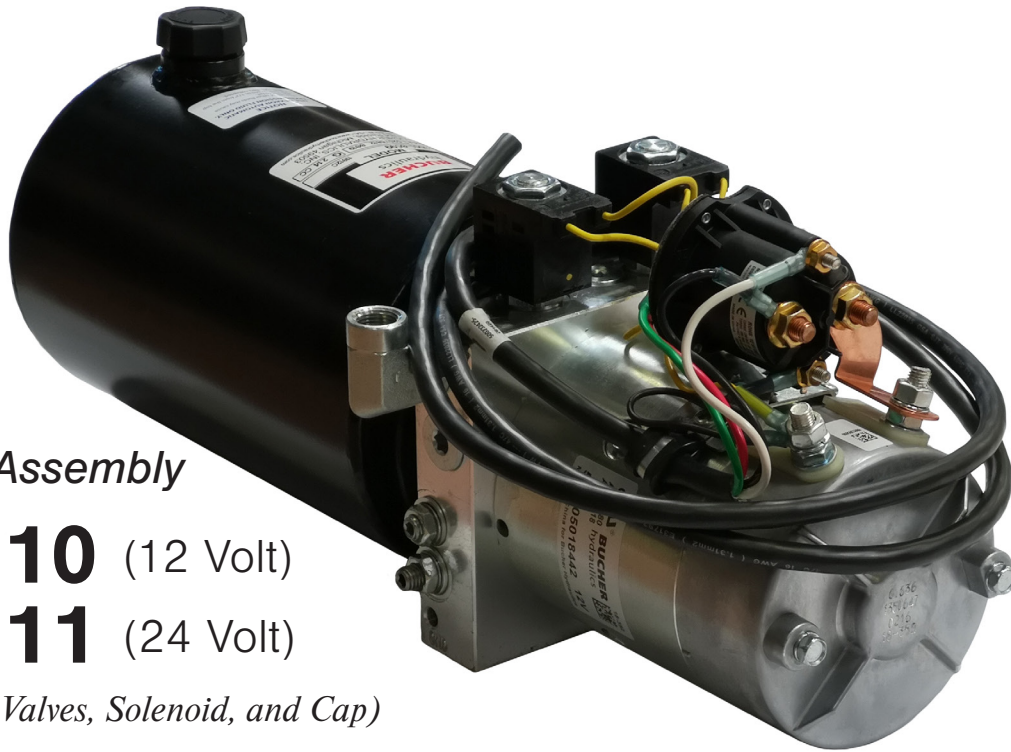
**10725**





# Motor and Electronics

*For TrafFix MASH Scorpion II® METRO TMA*



*Motor Assembly*

**11010** (12 Volt)

**11011** (24 Volt)

*(Includes Valves, Solenoid, and Cap)*

**10507C**

*Motion Alarm*



**11026**

*2 Button  
Controller,  
Orange*

*with 30 ft. Cable  
and Plug Connector*

**10919**

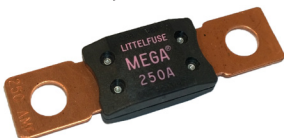
*Heavy Duty 4-Pin  
Plug Connector*



## Fuses

**12049**

*12 Volt, 250 Amp*



**12089**

*24 Volt, 150 Amp*

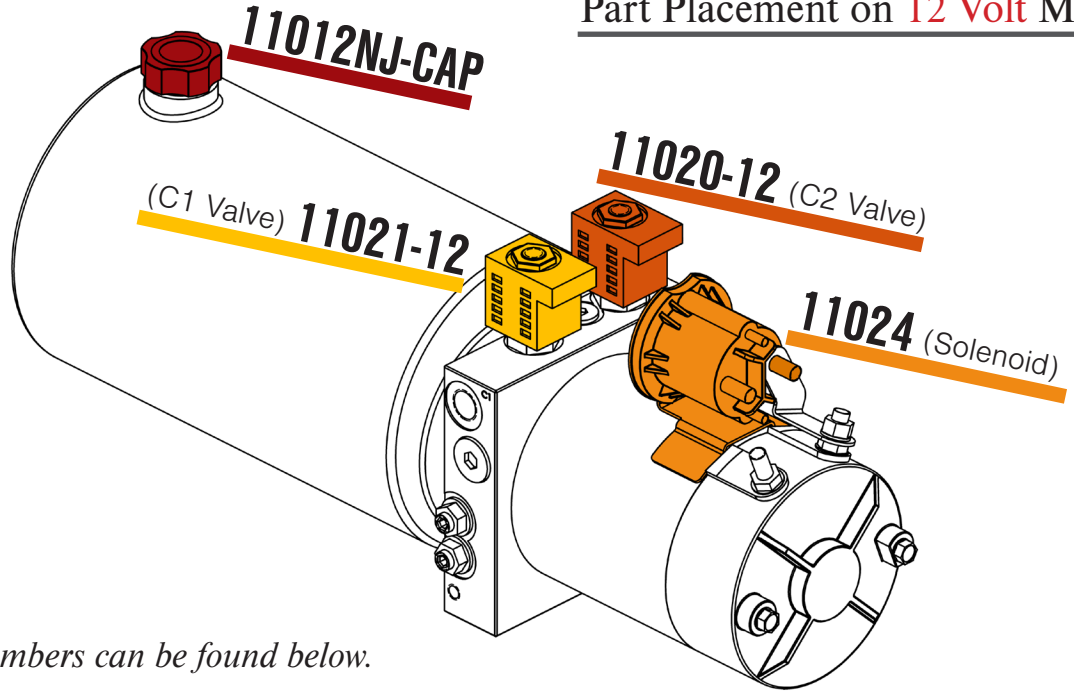


**10920**

*Heavy Duty 4-Pin  
Socket Connector*



Part Placement on **12 Volt** Motor



24 Volt Part Numbers can be found below.

**11012NJ-CAP**



Cap



11012NJ-CAP-DS

(Optional)  
Measurement Cap



Solenoid

**11024** (12 Volt)

**11025** (24 Volt)

**Valves**

**11020-12** (12 Volt)

**11020-24** (24 Volt)

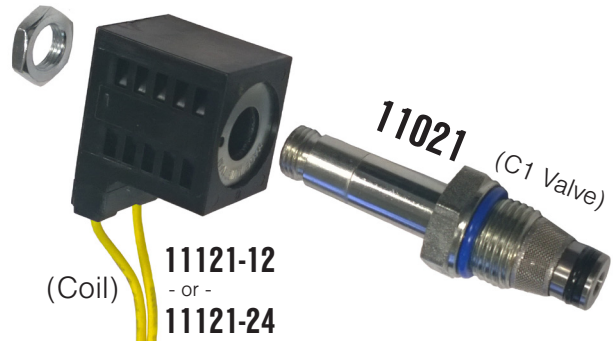
C2 Valve Kit. Includes:



**11021-12** (12 Volt)

**11021-24** (24 Volt)

C1 Valve Kit. Includes:





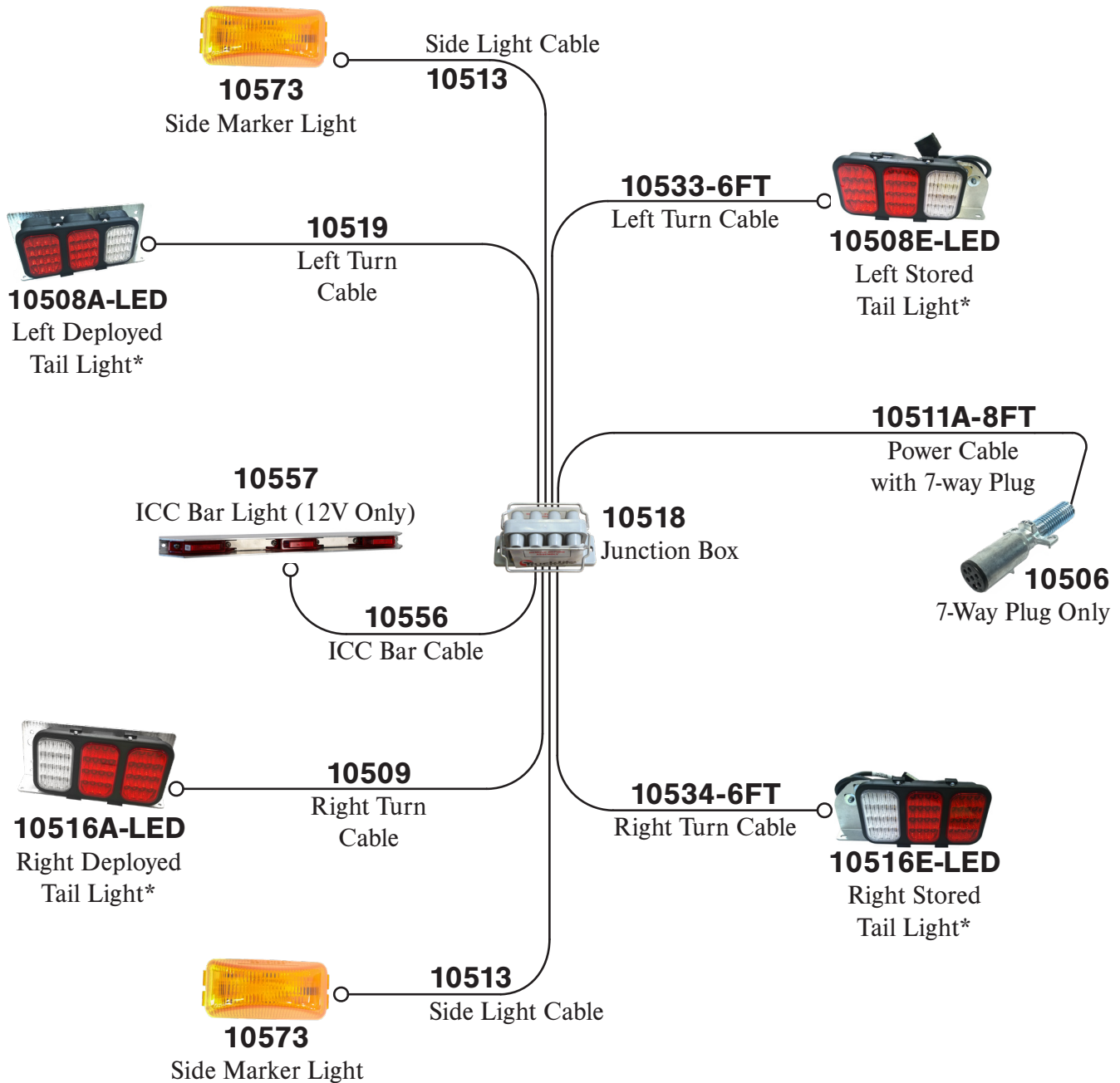


# **Appendix A**

## ***Drawings & Hardware***

# Light Wiring

## For TraFFix MASH Scorpion II® METRO TMA

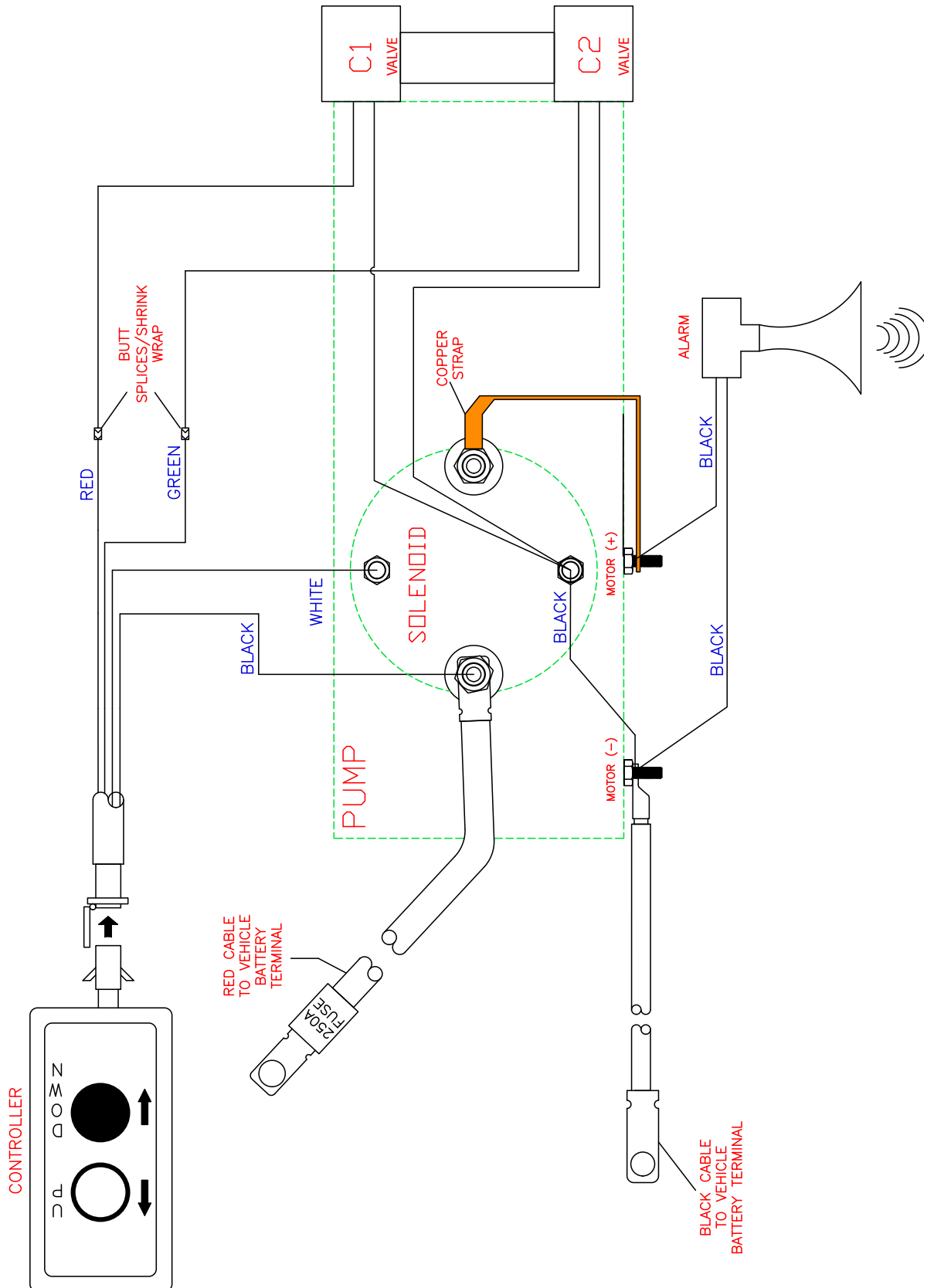


\* Tail Lights include the appropriate Power Cable

White	Ground
Black	Open Circuit
Yellow	Left Turn
Red	Stop
Green	Right Turn
Brown	Running/Clearance
Blue	Reverse

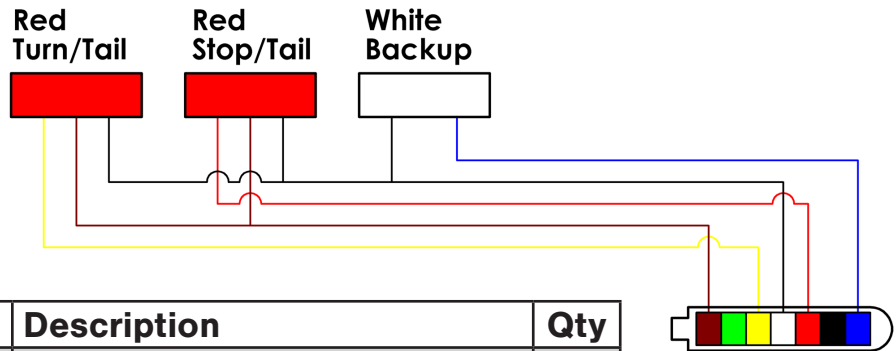
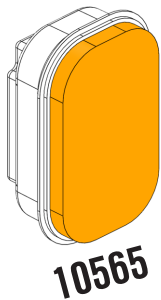
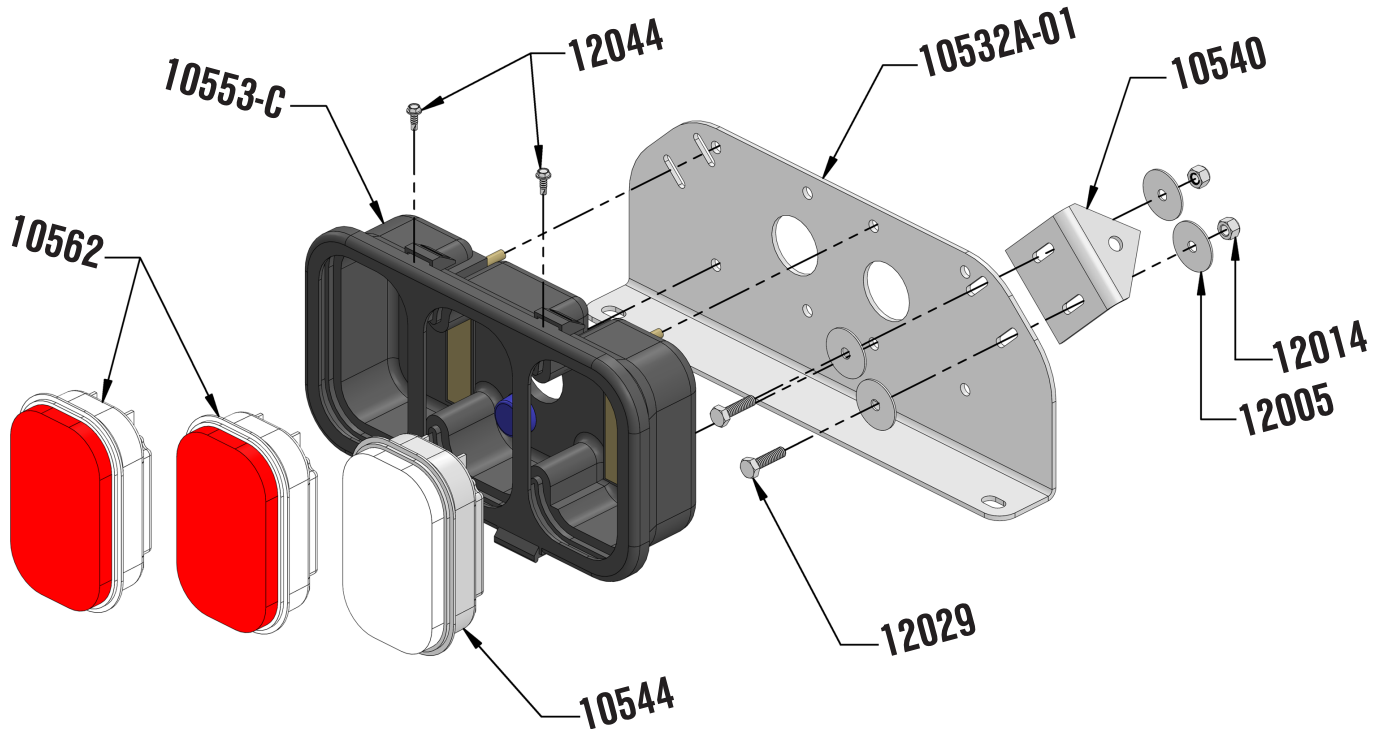
# Motor and Electronics Wiring

For TraFix MASH Scorpion II® METRO TMA



# Left Stored Tail Light Hardware 10508E-LED

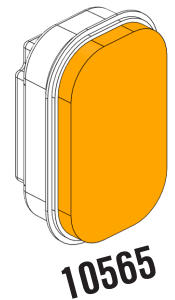
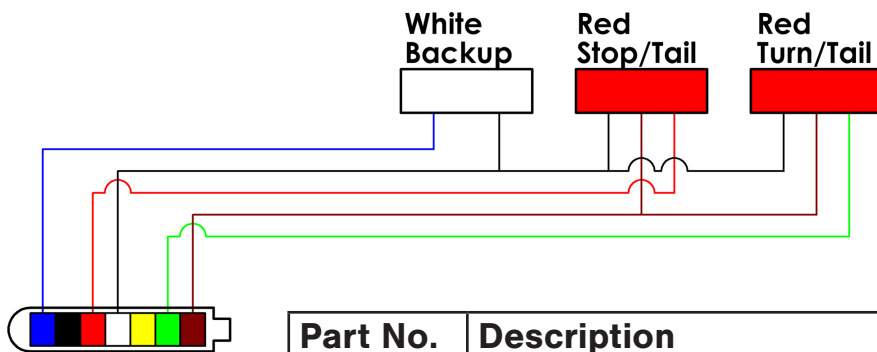
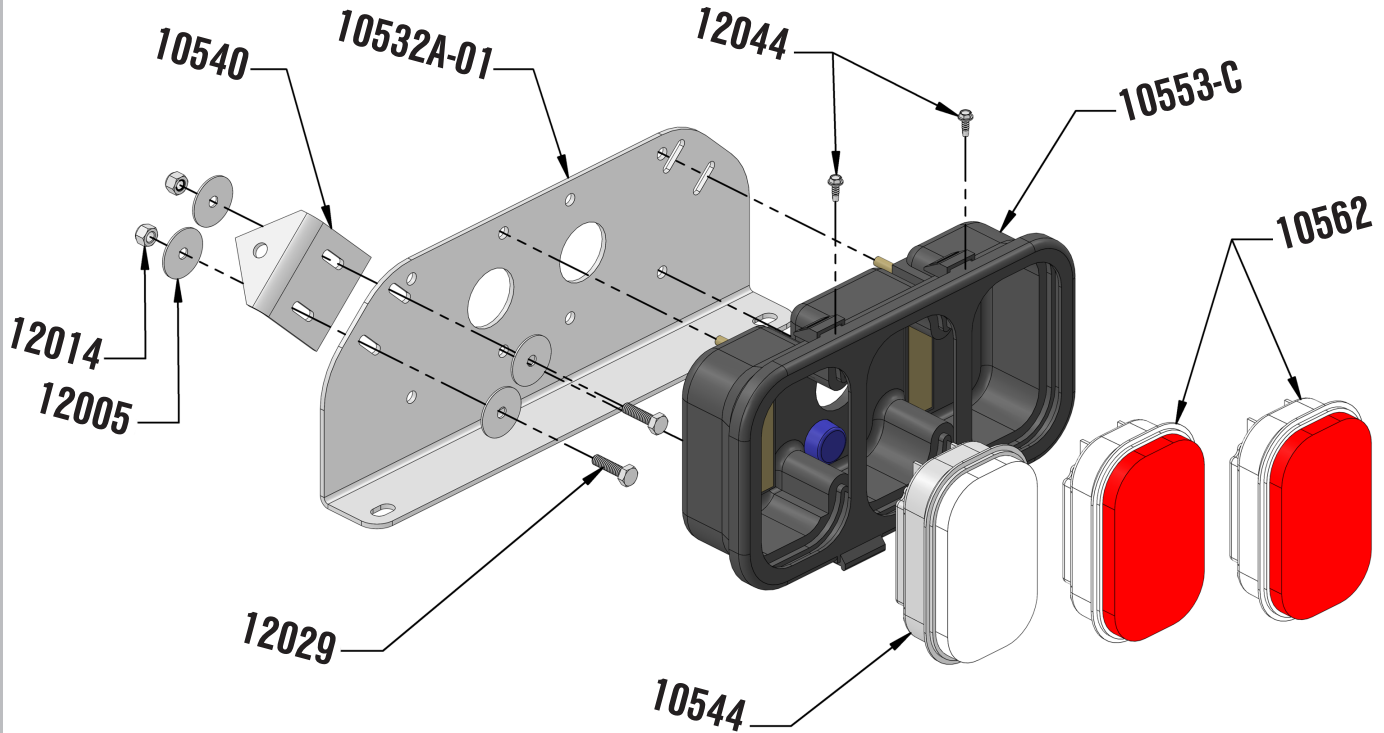
For *TraFFix MASH Scorpion II® METRO TMA*



Part No.	Description	Qty
10532A-01	Bracket, Universal	1
10540	Adjustment Angle	1
10553-C	Light Housing, Rubber	1
10562	LED Light, Red, Stop-Turn-Tail	2
10544	LED Light, White, Backup	1
10565	LED Light, Yellow, Turn	0
10533-6FT	Strut Tail Light Cable, Left, 6FT	1
12029	Bolt. HHCS, 1/4"-20 x 1"	2
12005	Fender Washer, 1/4"	4
12014	Locknut, 1/4"-20	2
12044	Screw, #8 x 1/2", Self Drilling, Hex Head	2

# Right Stored Tail Light Hardware 10516E-LED

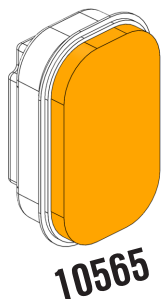
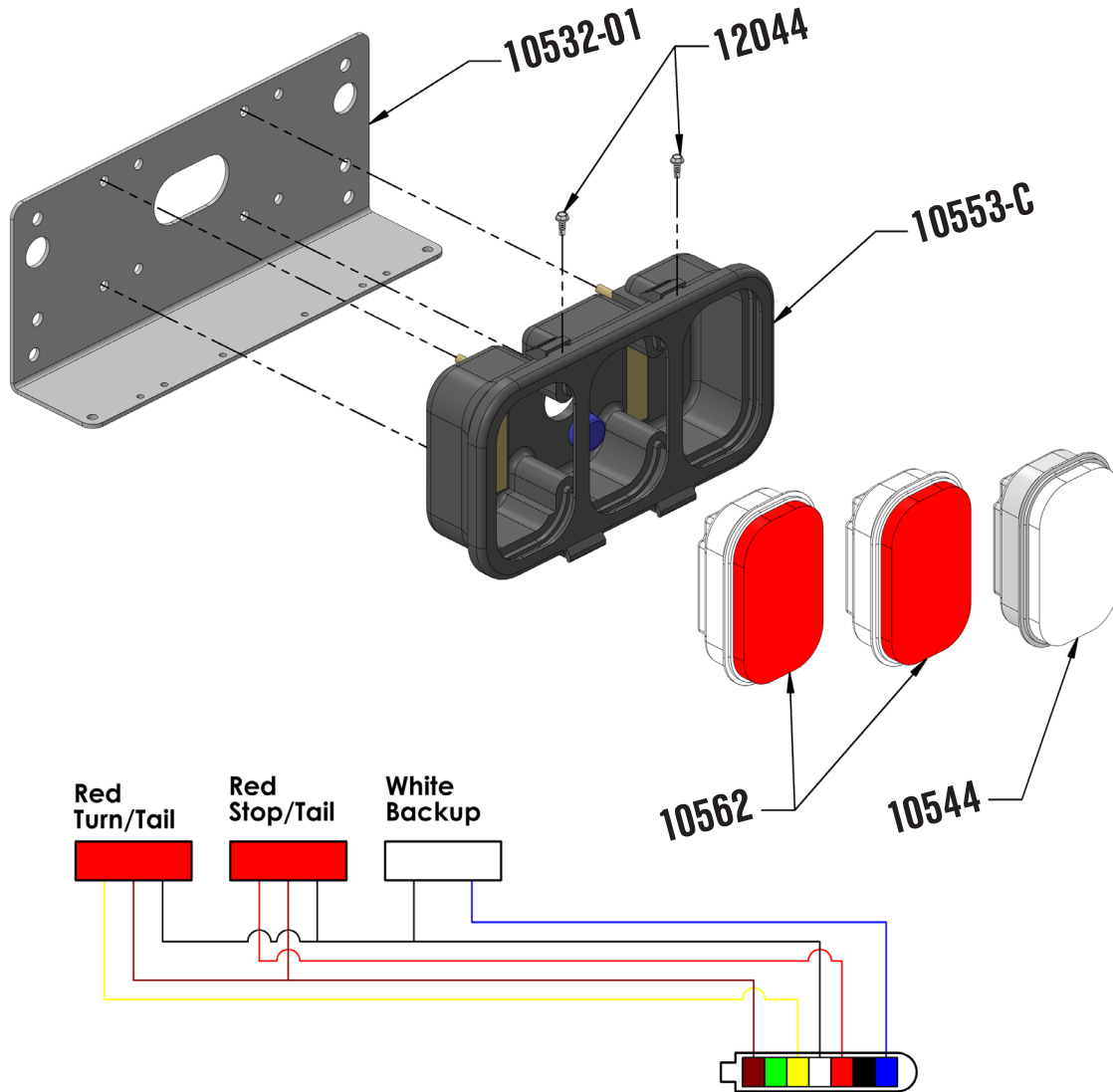
For *TraFFix MASH Scorpion II® METRO TMA*



Part No.	Description	Qty
10532A-01	Bracket, Universal	1
10540	Adjustment Angle	1
10553-C	Light Housing, Rubber	1
10562	LED Light, Red, Stop-Turn-Tail	2
10544	LED Light, White, Backup	1
10565	LED Light, Yellow, Turn	0
10534-6FT	Strut Tail Light Cable, Right, 6FT	1
12029	Bolt, HHCS, 1/4"-20 x 1"	2
12005	Fender Washer, 1/4"	4
12014	Locknut, 1/4"-20	2
12044	Screw, #8 x 1/2", Self Drilling, Hex Head	2

# Left Deployed Tail Light Hardware 10508A-LED

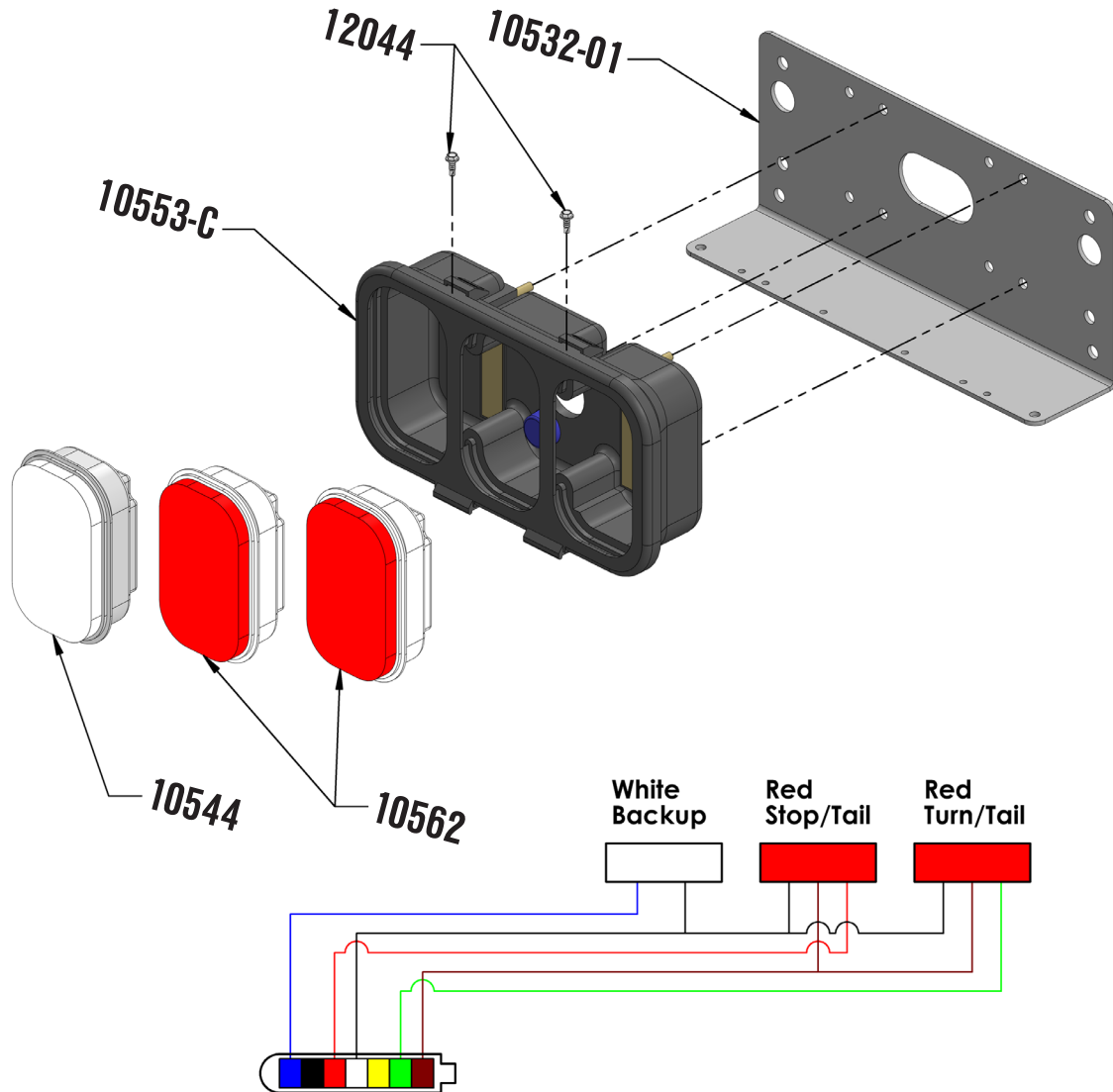
*For TraFFix MASH Scorpion II® METRO TMA*



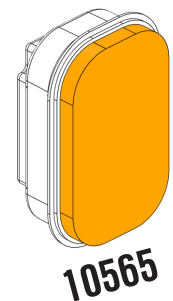
Part No.	Description	Qty
10532-01	Bracket, Universal	1
10553-C	Light Housing, Rubber	1
10562	LED Light, Red, Stop-Turn-Tail	2
10544	LED Light, White, Backup	1
10565	LED Light, Yellow, Turn	0
10519	Cartridge Tail Light Cable, Left, 120 Inch	1
12044	Screw, #8 x 1/2", Self Drilling, Hex Head	2

# Right Deployed Tail Light Hardware 10516A-LED

*For TraFFix MASH Scorpion II® METRO TMA*



Part No.	Description	Qty
10532-01	Bracket, Universal	1
10553-C	Light Housing, Rubber	1
10562	LED Light, Red, Stop-Turn -Tail	2
10544	LED Light, White, Backup	1
10565	LED Light, Yellow, Turn	0
10509	Cartridge Tail Light Cable, Right, 120 Inch	1
12044	Screw, #8 x 1 / 2", Self Drilling, Hex Head	2





# **Appendix B**

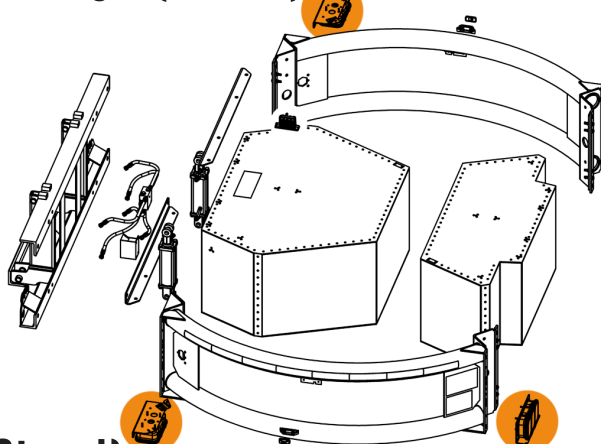
## ***Alternate Configurations***

# International Light Assemblies

For *TraFFix MASH Scorpion II® METRO TMA*

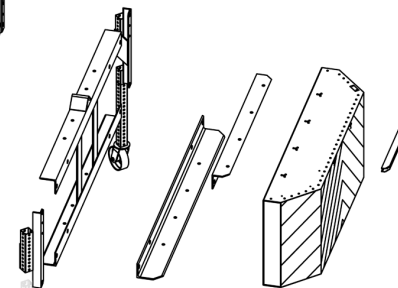
Color Pattern	Visible when Stored	Visible when Deployed
<b>RYW</b> 	<b>Right, METRO Front</b> 10505E-LED-RYW	<b>Right, METRO Rear</b> 10505A-LED-RYW
	<b>Left, METRO Front</b> 10504E-LED-RYW	<b>Left, METRO Rear</b> 10504A-LED-RYW
<b>YRW</b> 	<b>Right, METRO Front</b> 10505E-LED-YRW	<b>Right, METRO Rear</b> 10505A-LED-YRW
	<b>Left, METRO Front</b> 10504E-LED-YRW	<b>Left, METRO Rear</b> 10504A-LED-YRW
<b>YRR</b> 	<b>Right, METRO Front</b> 10505E-LED-YRR-01	<b>Right, METRO Rear</b> 10505A-LED-YRR-01
	<b>Left, METRO Front</b> 10504E-LED-YRR-01	<b>Left, METRO Rear</b> 10504A-LED-YRR-01

**Front Right (Stored)**



**Front Left (Stored)**

**Rear Right (Deployed)**



**Rear Left (Deployed)**

# Reflective Sheeting

*Includes Module A with One Color of Reflective Sheeting*

## 10400A

4" Yellow Sheeting on Black Module  
*Avery MVP Sheeting*



## 10400A-B1AV-6Y

6" Yellow Sheeting on Black Module  
*Avery Hi-Intensity Prismatic Sheeting*



## 10400A-B1DG-6O

6" Orange Sheeting on Black Module  
*3M Diamond Grade Sheeting*



## 10400A-B1DG-8O

8" Orange Sheeting on Black Module  
*3M Diamond Grade Sheeting*



## 10400A-W1AV-6R

6" Red Sheeting on White Module-Front  
*Avery Hi-Intensity Prismatic Sheeting*



## 10400A-W1DG-4O

4" Orange Sheeting on White Module-Front  
*3M Diamond Grade Sheeting*



*One Color: Foreground color is reflective sheeting, non-reflective module as background color.*

# Reflective Sheeting

*Includes Module A with Two Colors of Reflective Sheeting*

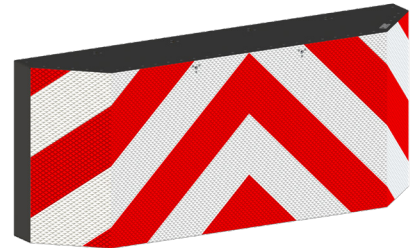
## **10400A-B1HI-6OW**

6" Orange and White Sheeting  
*3M Hi-Intensity Prismatic Sheeting*



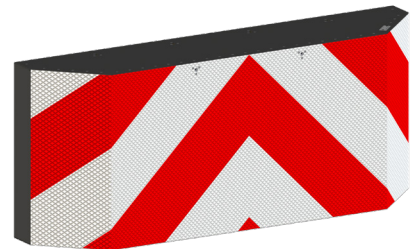
## **10400A-B1AV-6RW**

6" Red and White Sheeting  
*Avery Hi-Intensity Prismatic Sheeting*



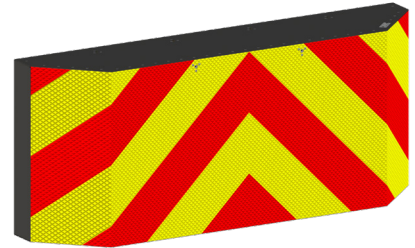
## **10400A-B1AV-8RW**

8" Red and White Sheeting  
*Avery Hi-Intensity Prismatic Sheeting*



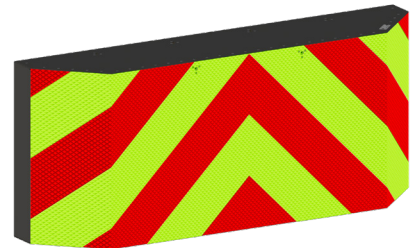
## **10400A-B1AV-6RY**

6" Red and Yellow Sheeting  
*Avery Hi-Intensity Prismatic Sheeting*



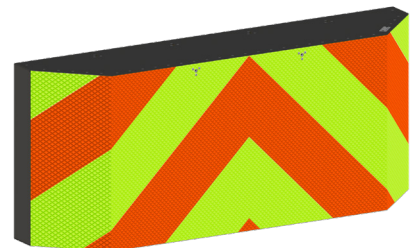
## **10400A-B1OR-6RL**

6" Red and Lime Sheeting  
*Oralite V98 Sheeting*



## **10400A-B1DG-8OL**

8" Orange and Lime Sheeting  
*3M Diamond Grade Sheeting*



*Two Colors: Foreground and background sheeting colors are both reflective.*

# **Appendix C**

## ***Mounting***

# TMA Mounting Options

*These attach the TMA to your truck's frame rails.*

---

## 10350 Standard Mount

*Semi-permanent  
Mount for TMAs.*



## Fast-Trak Mounting System

*For easier attachment,  
removal, or swapping  
of TMAs.*



---

*See the following pages for more info  
about Fast-Trak Configurations. →*

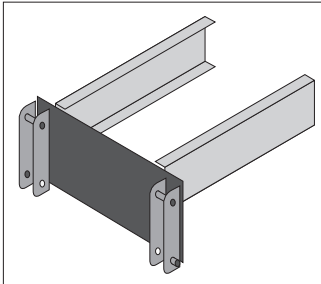
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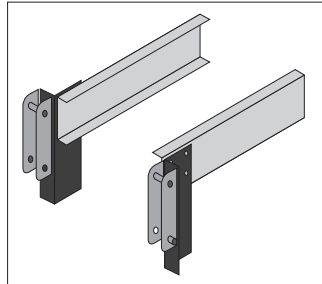
# Fast-Trak Mounting

## *Truck-Side Trak Mounting Configurations*

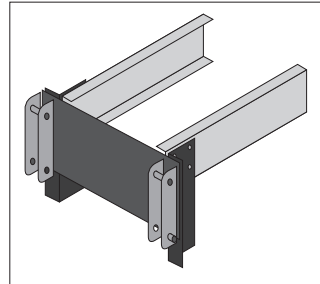
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**Plate Mounting**  
*with Traks*



**Angle Mounting**  
*with Traks*



**Plate & Angle  
Mounting\*\***  
*with Traks*



**Traks-Only  
Mounting\*\*\***

---

## Which type of mounting do you need?

You will probably need a plate or a set of angles to mount the Traks on your truck frame rails. *Plate Mounting* is the most common. However, if something is blocking the installation of a plate, you may want to opt for *Angle Mounting*. See the next two Extension pages to order Extensions with Mounting, or see the hardware page to order Mounting by itself.

**\*\* Plate and Angle:**

Order an *Extension with Angle Mounting*.

Add *Mounting Plate* (11141-01) as a line item.

**\*\*\*** The *Extension Frame with Traks* and *Extension Frame only* options are for those who already have mounting partially or fully installed. A truck must have a set of Traks installed in order to support a Fast-Trak connection.



# Fast-Trak Extension Lengths

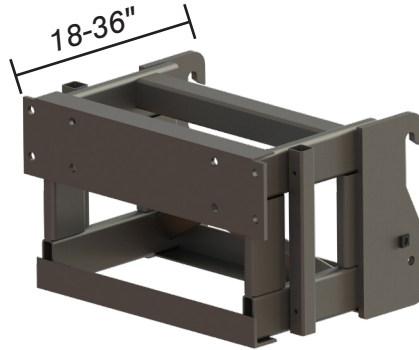
**18" and above are Arrowboard Lift Compatible**



**Short (6-12")**

## Extension Frame

*Cannot incorporate  
Arrowboard Vertical Lift*



**Long (18-36")**

## Extension Frame

*Includes Mounting Tubes  
for Arrowboard Vertical Lift  
Arrowboard Vertical Lift  
is sold separately.*



## 11160A

*Arrowboard Vertical Lift  
(AVL) for Fast-Trak  
Connects to Fast-Trak  
Arrowboard Mounting Tubes.*

# Standard Configurations

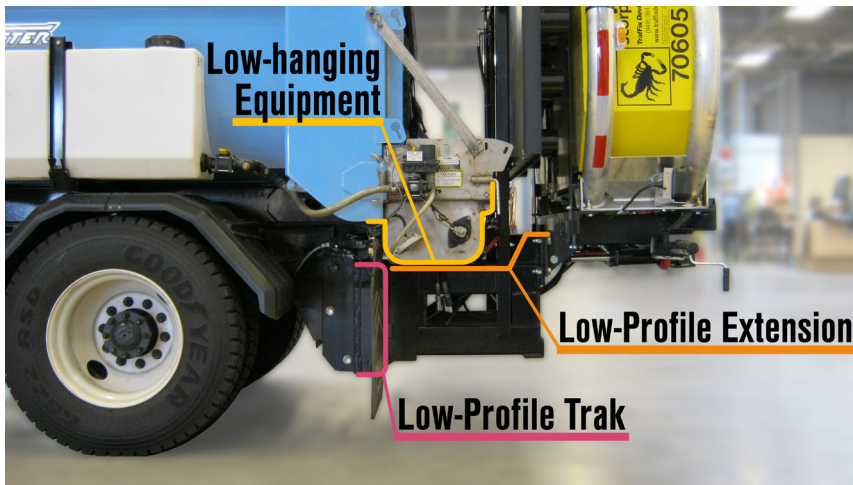
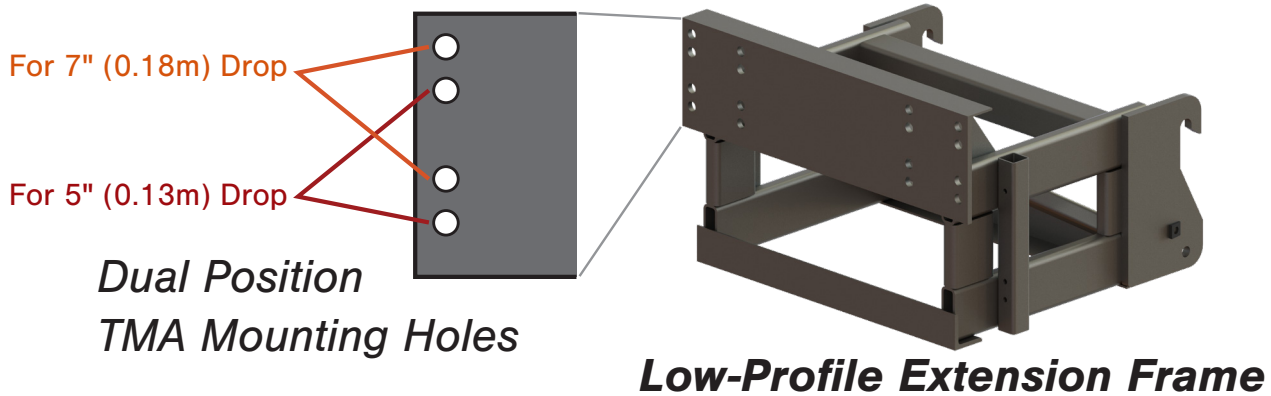
*Mounting Type Included with Extension Frame:*

	Frame with Plate & Traks	Frame with Angles & Traks	Frame with Traks Only	Frame Only
<b>6" *</b>	11140-06	11145-06	11135-06	11142-06
<b>12" *</b>	11140-12	11145-12	11135-12	11142-12
<b>18"</b>	11150-18	11155-18	11160-18	11152-18
<b>24"</b>	11150-24	11155-24	11160-24	11152-24
<b>30"</b>	11150-30	11155-30	11160-30	11152-30
<b>36"</b>	11150-36	11155-36	11160-36	11152-36

\* Cannot incorporate Arrowboard Vertical Lift

# Low Profile Extension Frame

*For trucks with low-hanging equipment*



## Do you need Low-Profile?

If you have a truck with equipment on the back that hangs down lower than the truck bed, you probably need a Low-Profile Extension Frame.

## Low-Profile Configurations

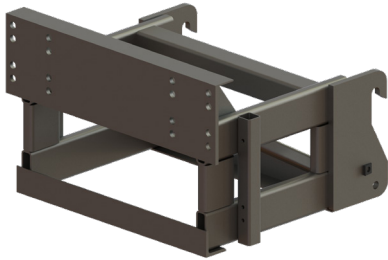
*Mounting Type Included with Low-Profile Extension Frame:*

	Frame with Plate & Traks	Frame with Angles & Traks	Frame with Traks Only	Frame Only	
<b>Length</b>	<b>12"</b>	11170-12	11175-12	11180-12	11171-12
	<b>18"</b>	11170-18	11175-18	11180-18	11171-18
	<b>24"</b>	11170-24	11175-24	11180-24	11171-24
	<b>30"</b>	11170-30	11175-30	11180-30	11171-30
	<b>36"</b>	11170-36	11175-36	11180-36	11171-36

18-36" Extensions include Mounting Tubes for Arrowboard Vertical Lift. AVL sold separately.

# Fast-Trak Hardware

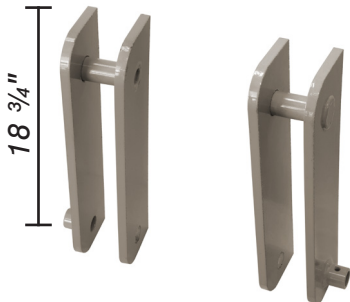
## *and Individual Components*



	Low-Profile Extensions
12"	11171-12
18"	11171-18
24"	11171-24
30"	11171-30
36"	11171-36

### Low-Profile Traks\*

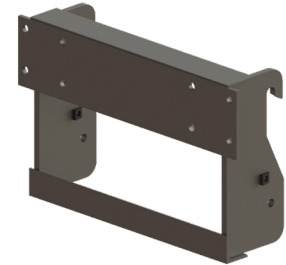
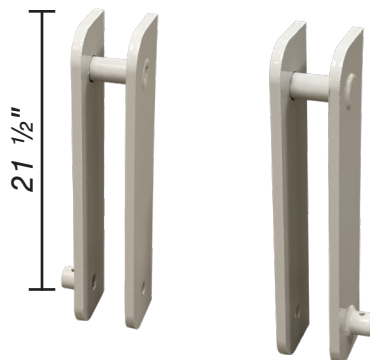
11173L 11173R



	Long Extensions
18"	11152-18
24"	11152-24
30"	11152-30
36"	11152-36

### Standard Traks\*

11146L 11146R



	Short Extensions
6"	11142-06
12"	11142-12



*\*Standard and Low-Profile Traks are not interchangeable!*

### Mounting Plate

11141-01



**Bolt**  
12129



**Nut**  
12012

### Mounting Angles

10355 10354



*Left*



*Right*

**TraFFix  
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