

Replacement Parts Guide

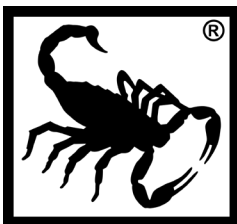
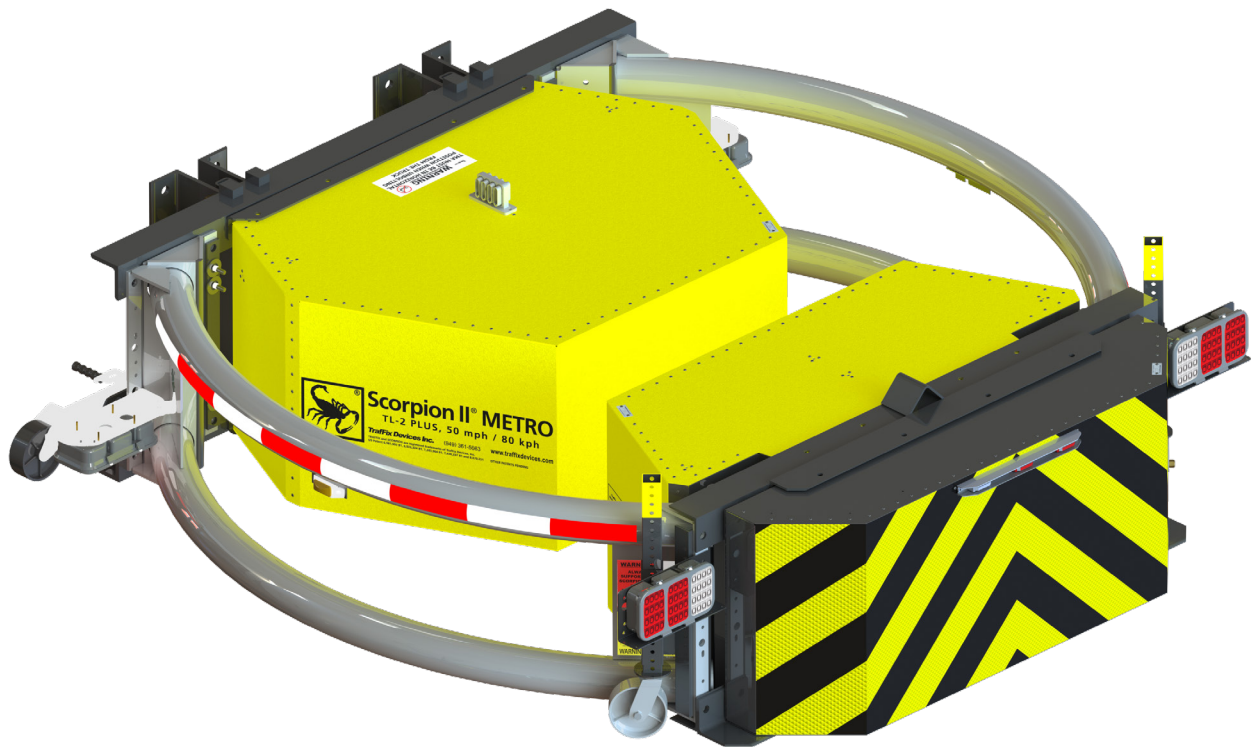
For TraFFix MASH Scorpion II[®] METRO TMA

TraFFix
Devices Inc. 
Engineered Products for Safer Highways

MASH [®]

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

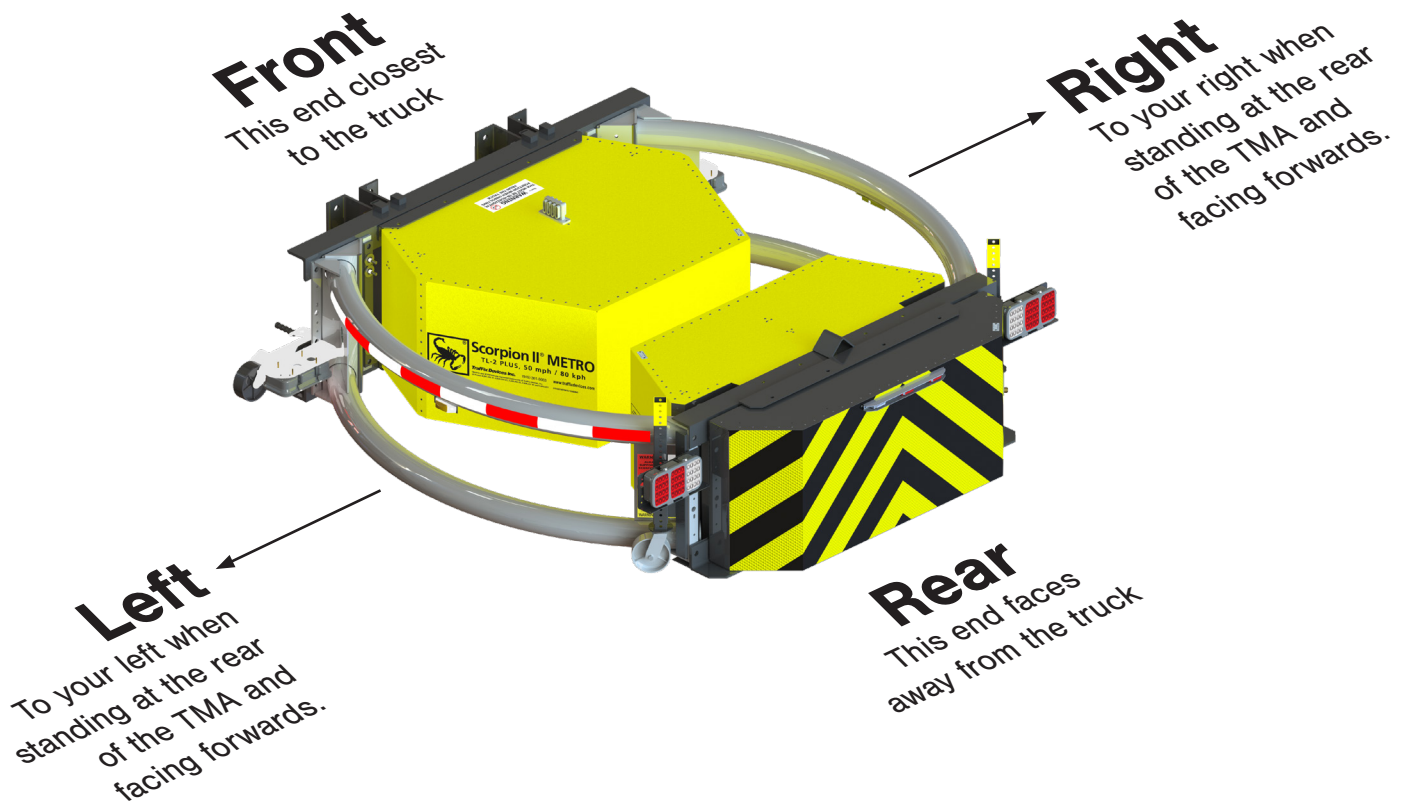


Table of Contents

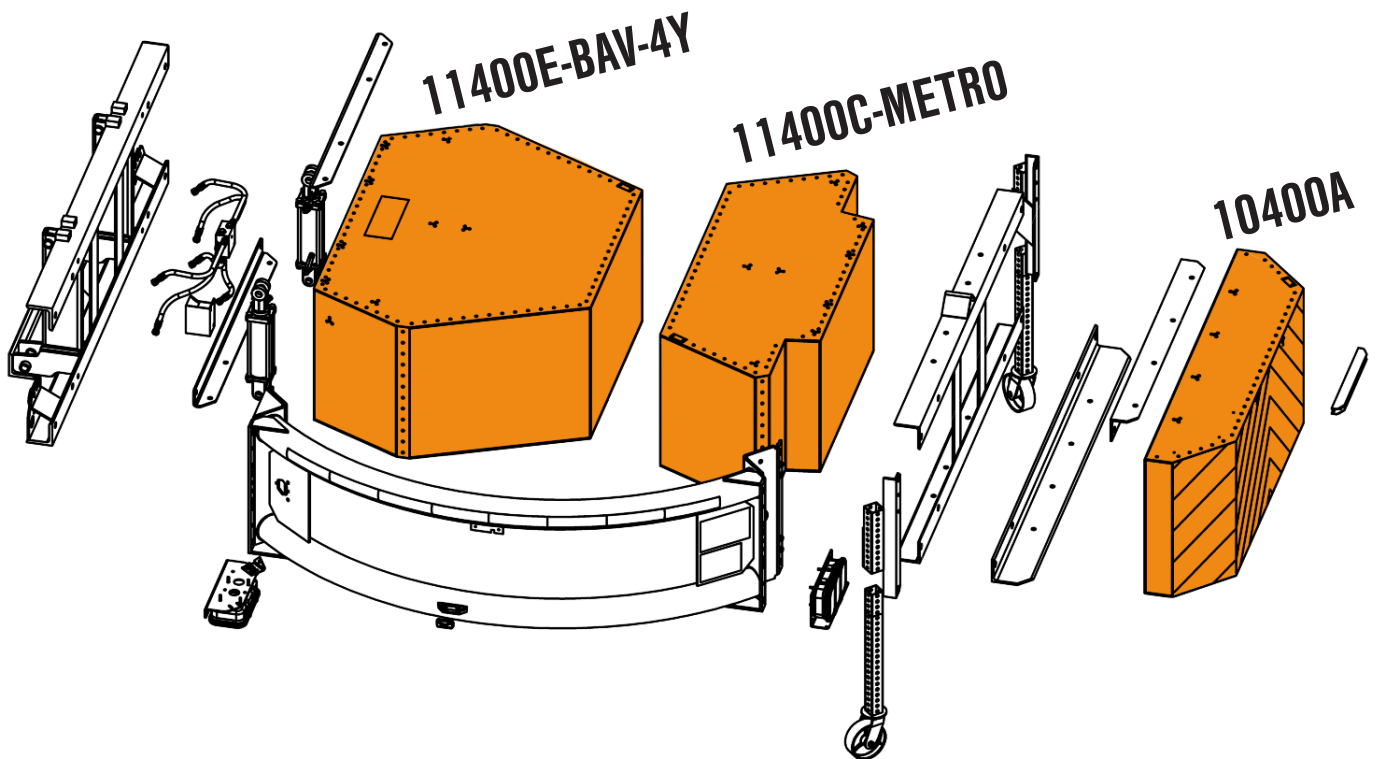
MASH Scorpion II METRO® TMA Replacement Parts Guide

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Energy-Absorbing Modules

For TraFFix MASH Scorpion II® METRO TMA

Module Placement



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

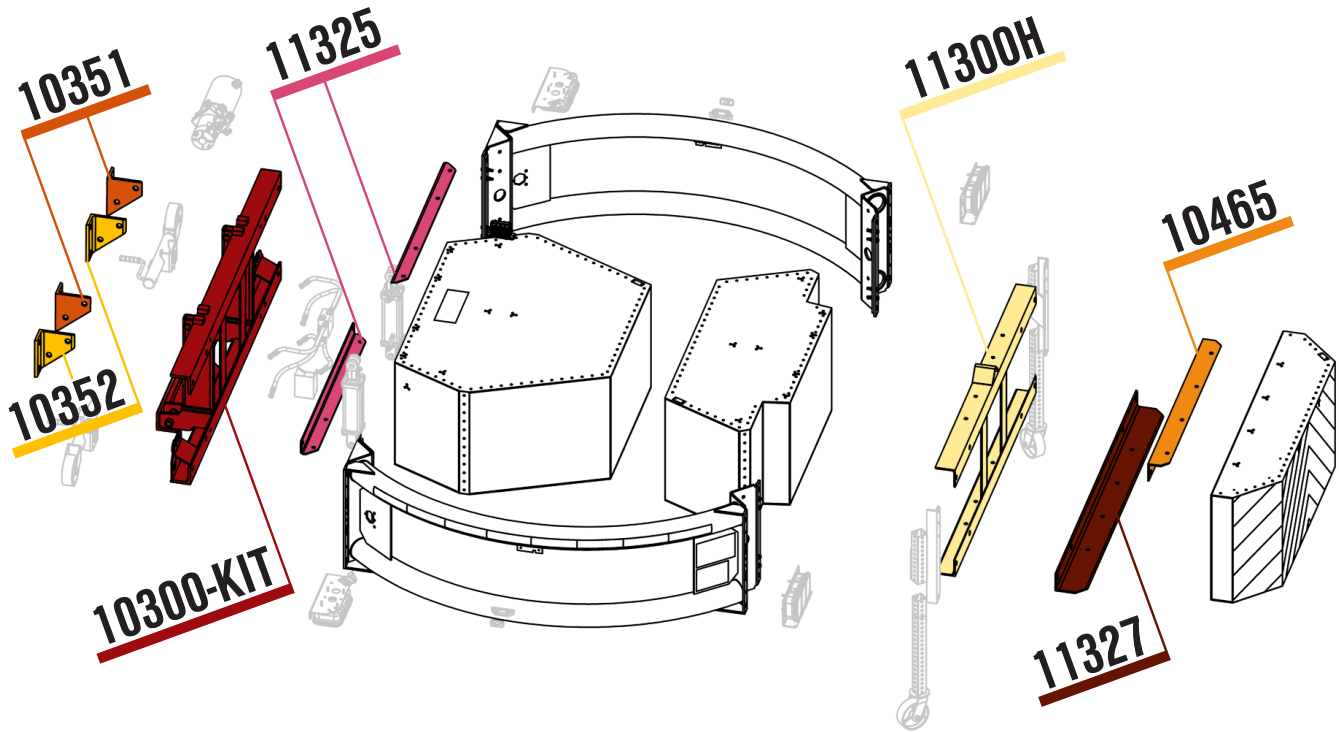


**Other Sheeting Options Available, see p28.*

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

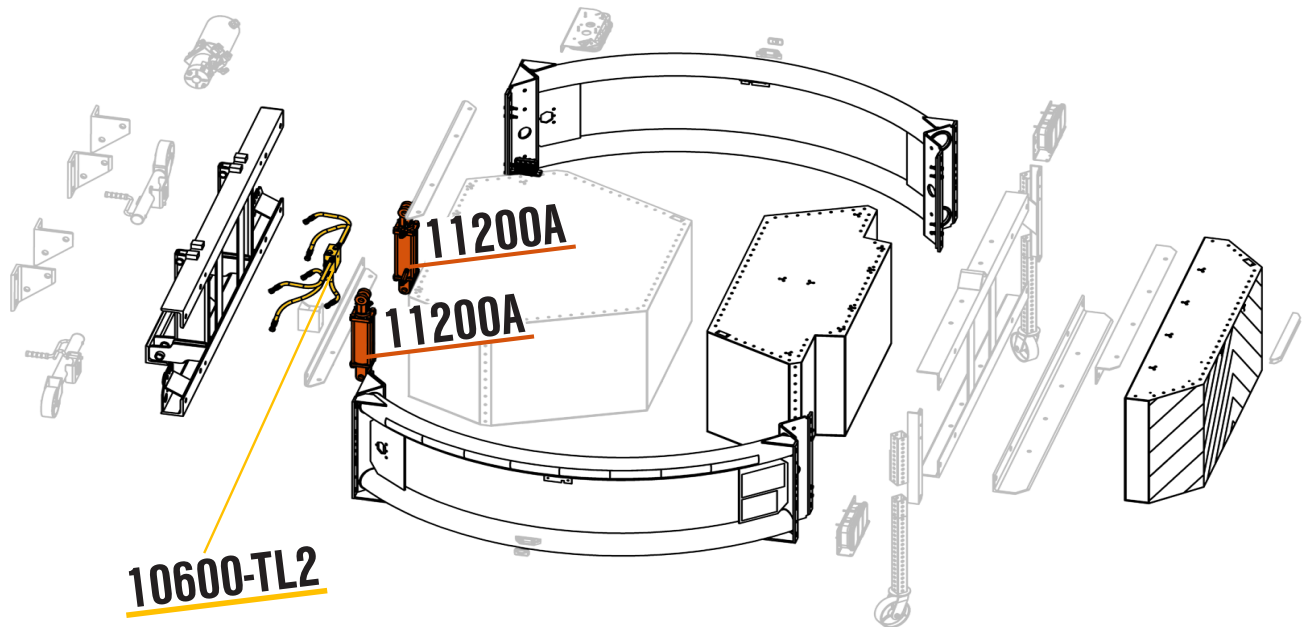
Rear Bottom Angle

Attaches to Module A

Hydraulics and Cylinder

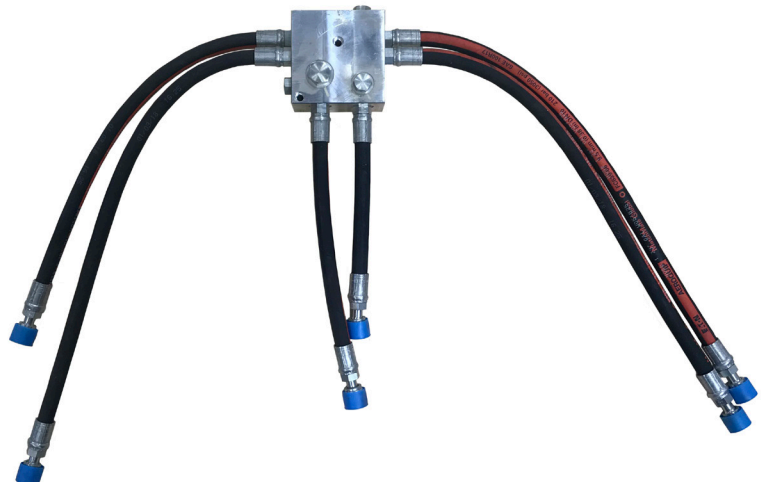
For *TraFFix MASH Scorpion II® METRO TMA*

Cylinder Placement



Components Removed for Clarity.

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"

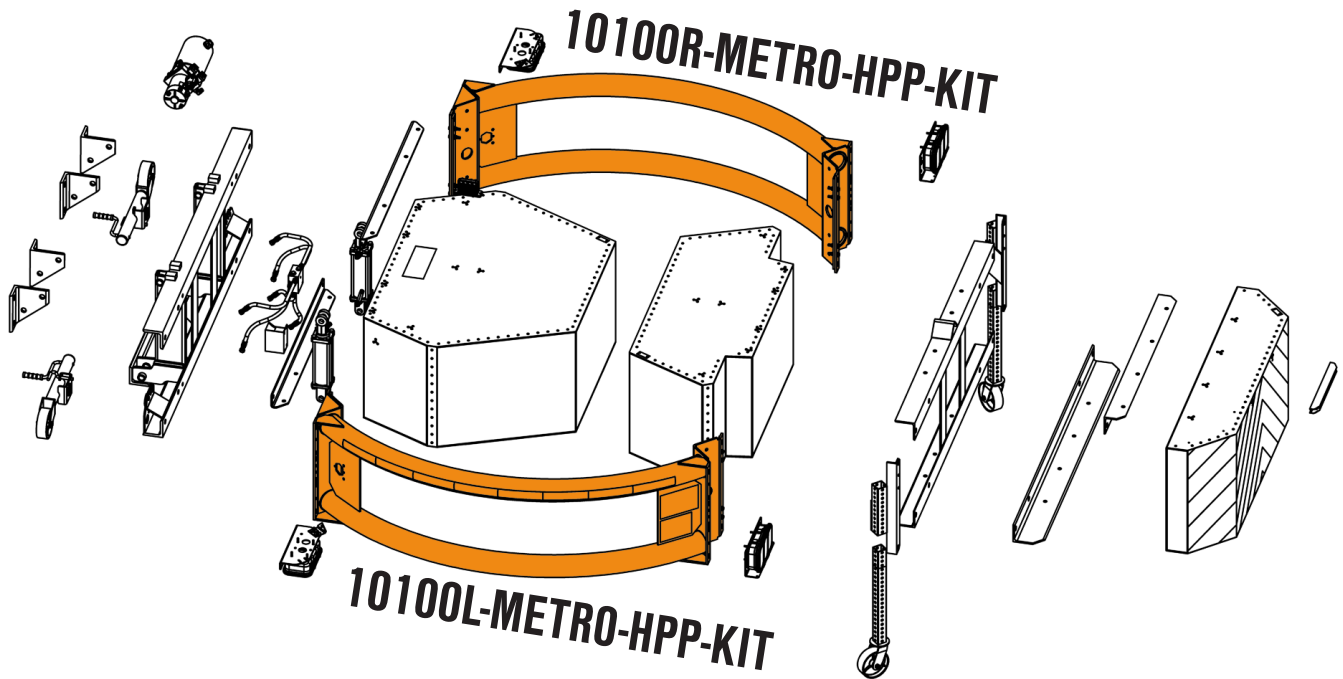
12017
Hairpin



12015-6.0
Clevis Pin, 6"

Replacement Tubes

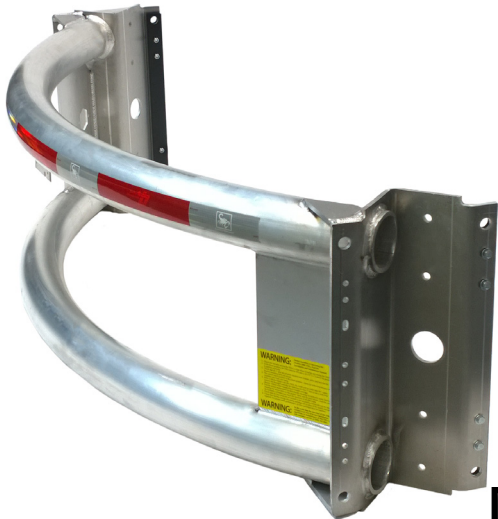
For TraFFix MASH Scorpion II® METRO TMA



Components Removed for Clarity.

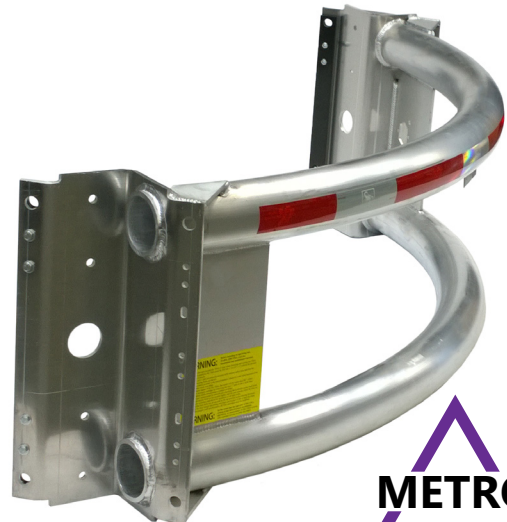
10100L-METRO-HPP-KIT

METRO Left Tube



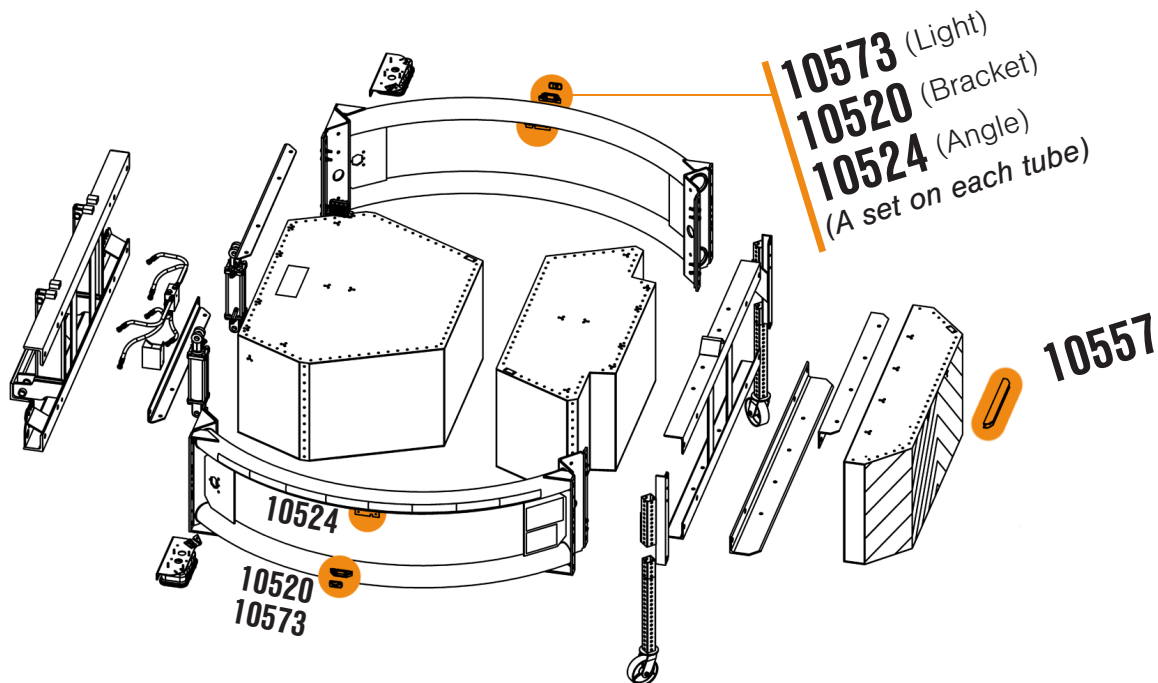
10100R-METRO-HPP-KIT

METRO Right Tube



Visibility Lights

For TraFFix MASH Scorpion II® METRO TMA



Components Removed for Clarity.

10524

Angle, Side Marker Light



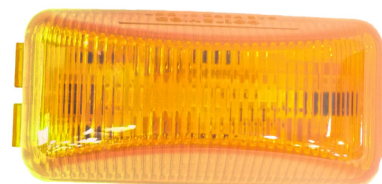
10520

Bracket, Side Marker Light



10573

Side Marker Light, Amber, LED, Multivolt



10557

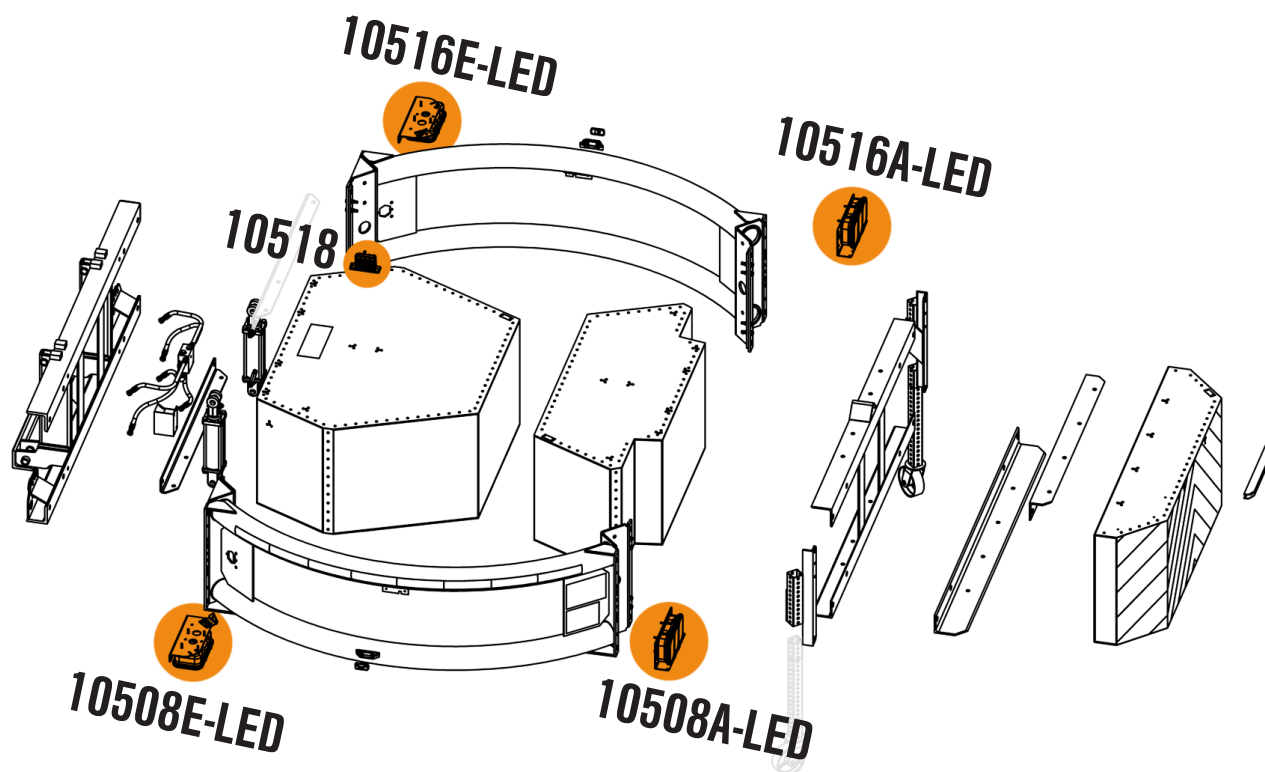
ICC Bar Light, LED, 12 Volt Only



Tail Lights and Junction

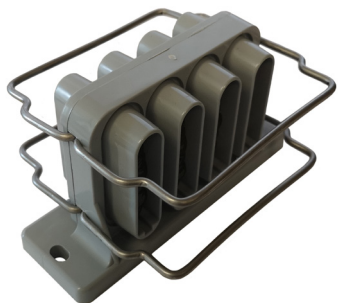
For *TraFFix MASH Scorpion II® METRO TMA*

Tail Light and Junction Placement

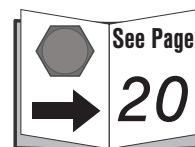


Components Removed for Clarity.

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*



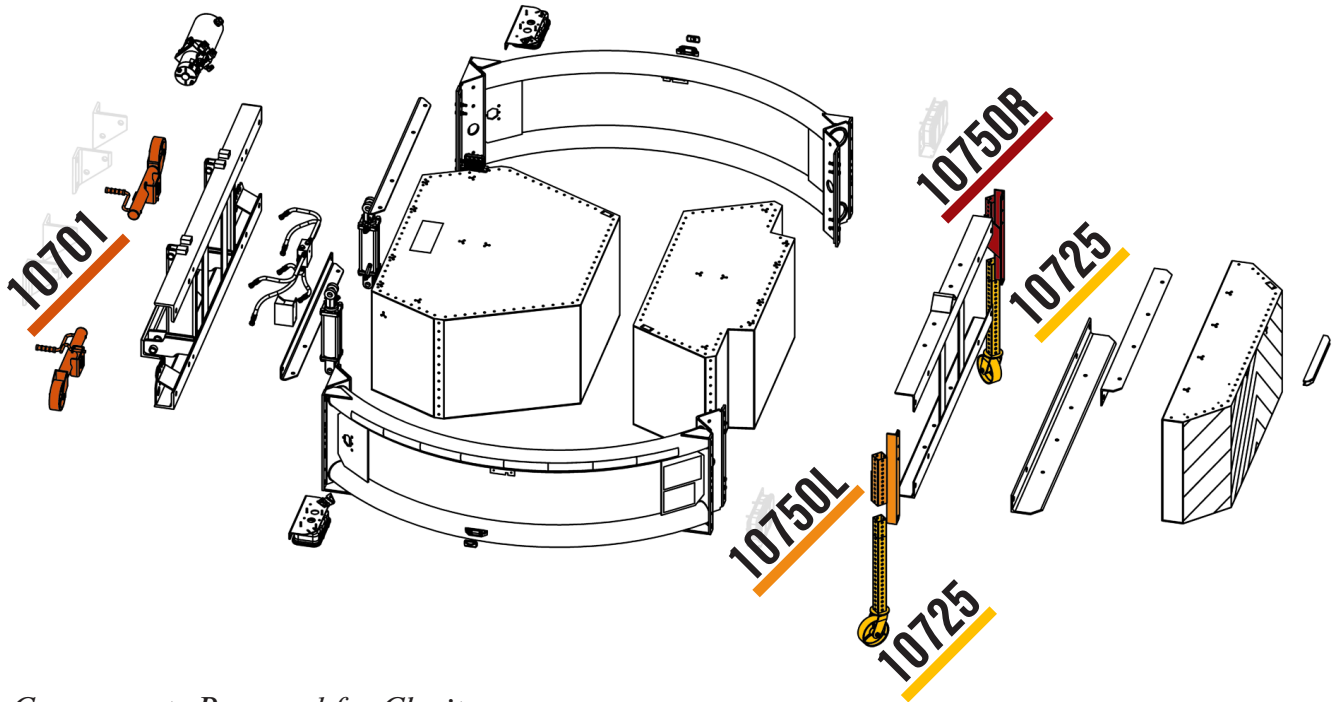
*For Tail Light Hardware,
see pages 22-25.*

*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

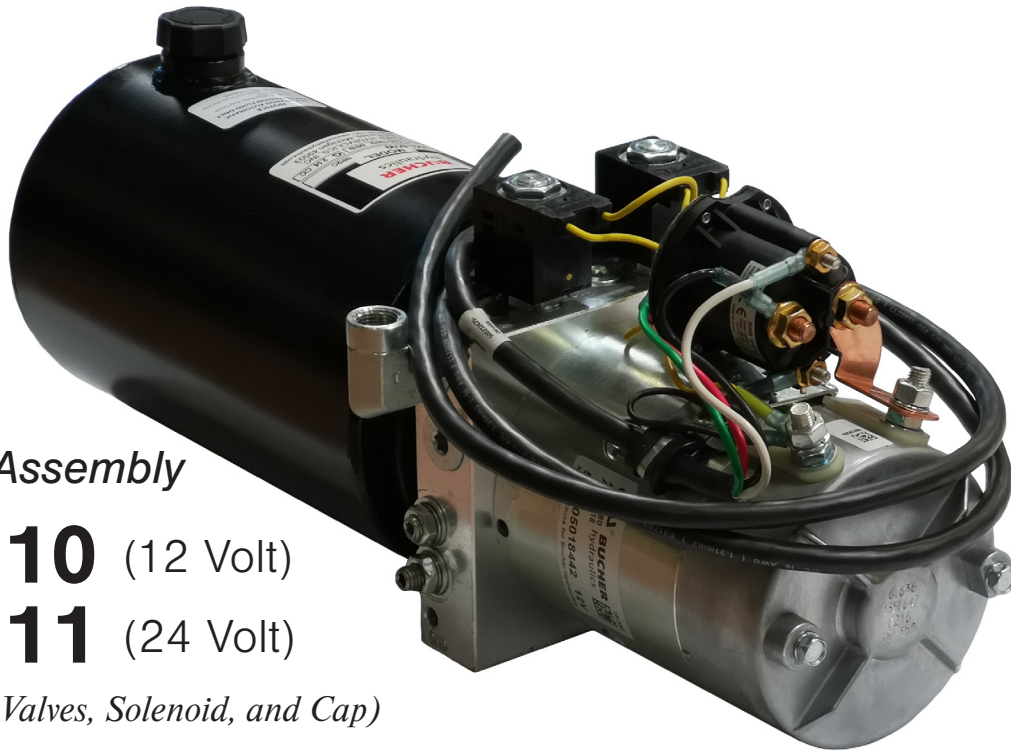
Universal (suitable for left or right placement).

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

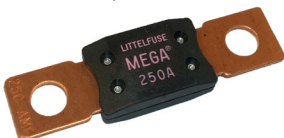
*Heavy Duty 4-Pin
Plug Connector*



Fuses

12049

12 Volt, 250 Amp



12089

24 Volt, 150 Amp

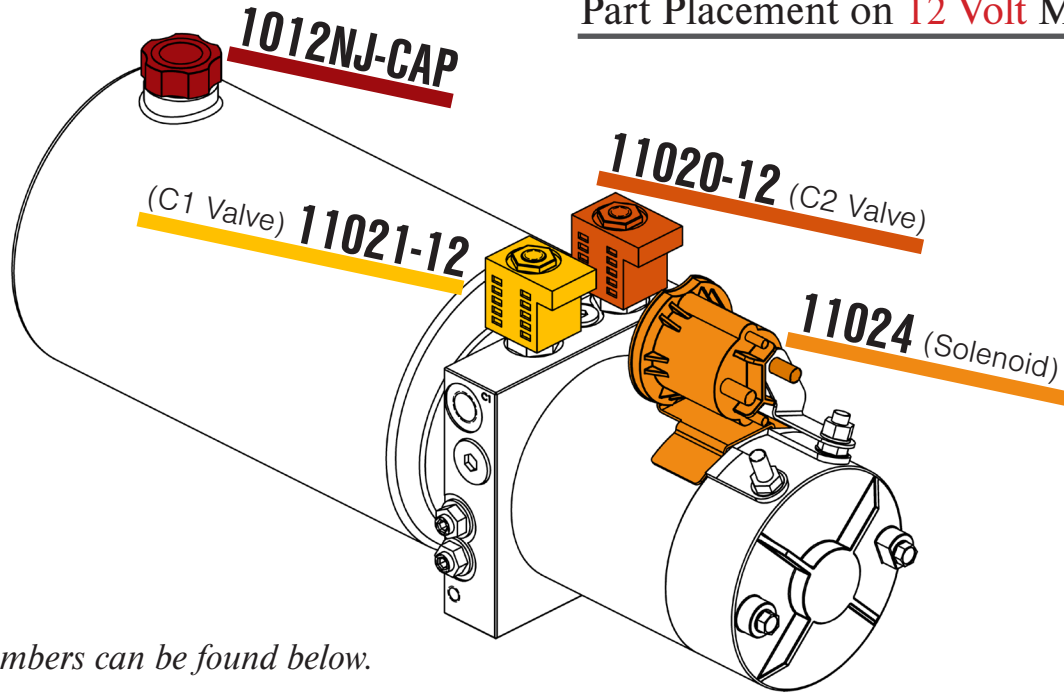


10920

*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)

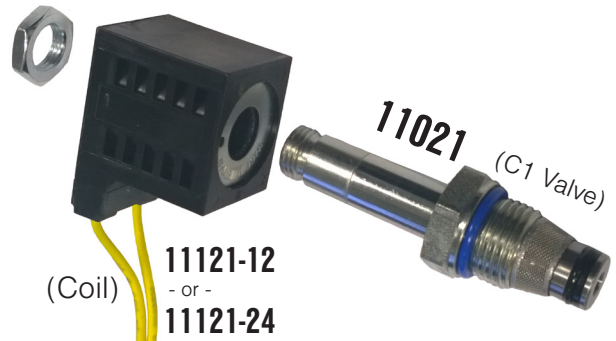
C2 Valve Kit. Includes:



11021-12 (12 Volt)

11021-24 (24 Volt)

C1 Valve Kit. Includes:

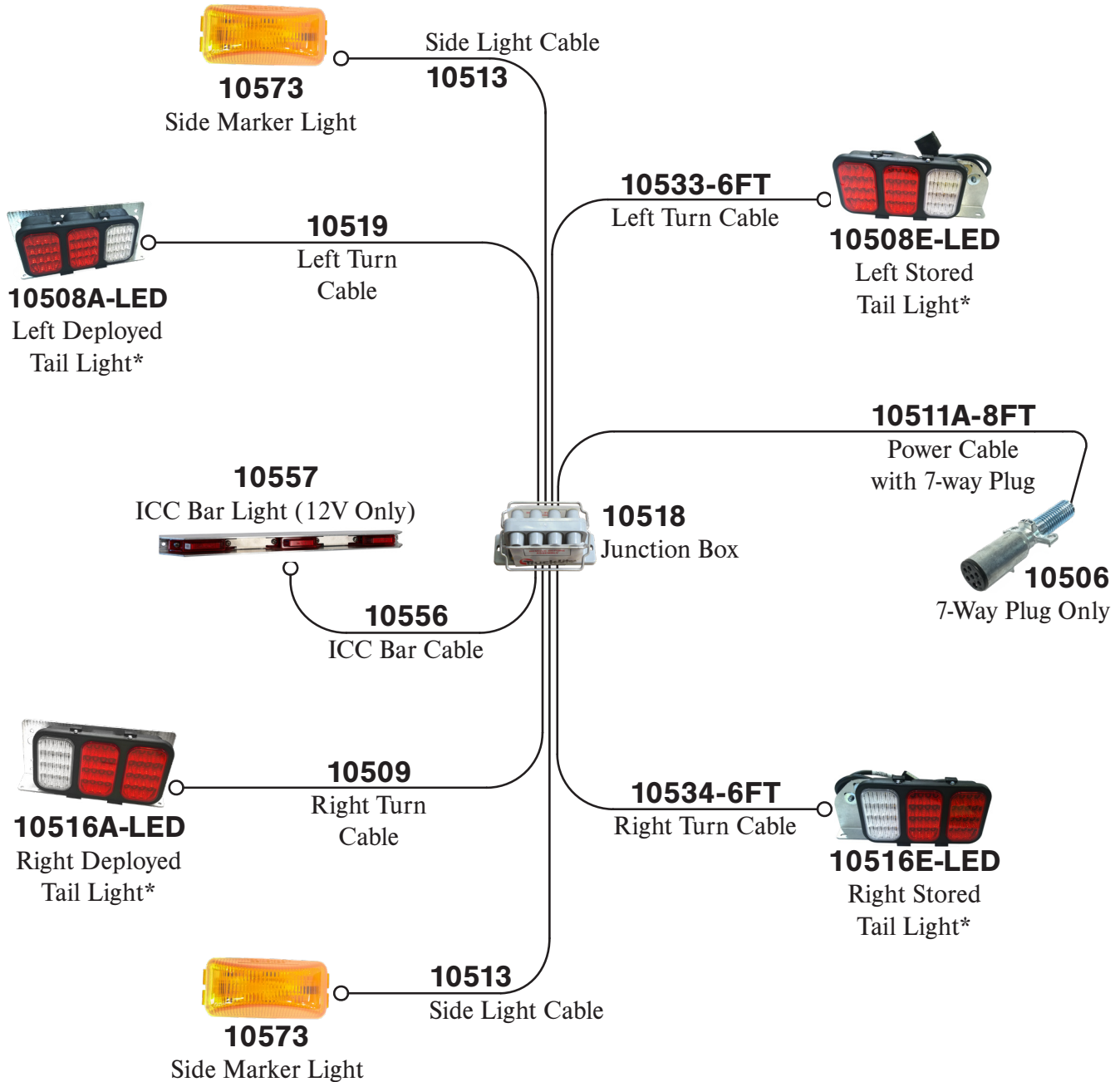


Appendix A

Drawings & Hardware

Light Wiring

For TraFFix MASH Scorpion II® METRO TMA

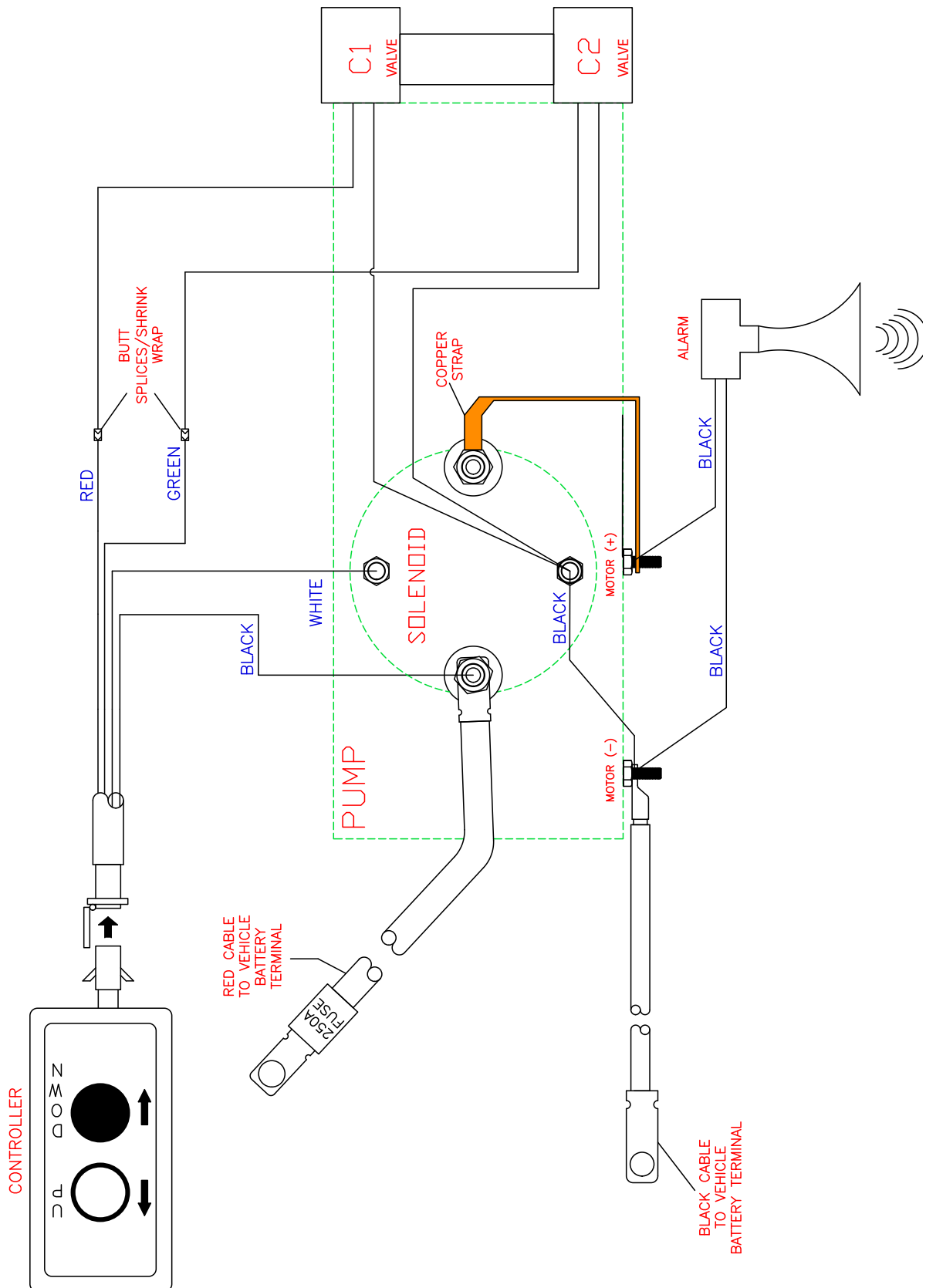


* Tail Lights include the appropriate Power Cable

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

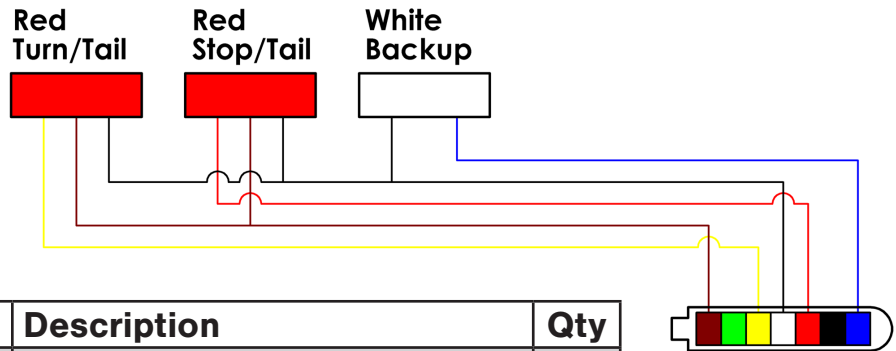
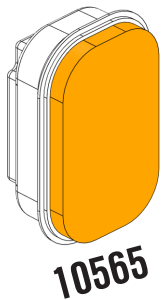
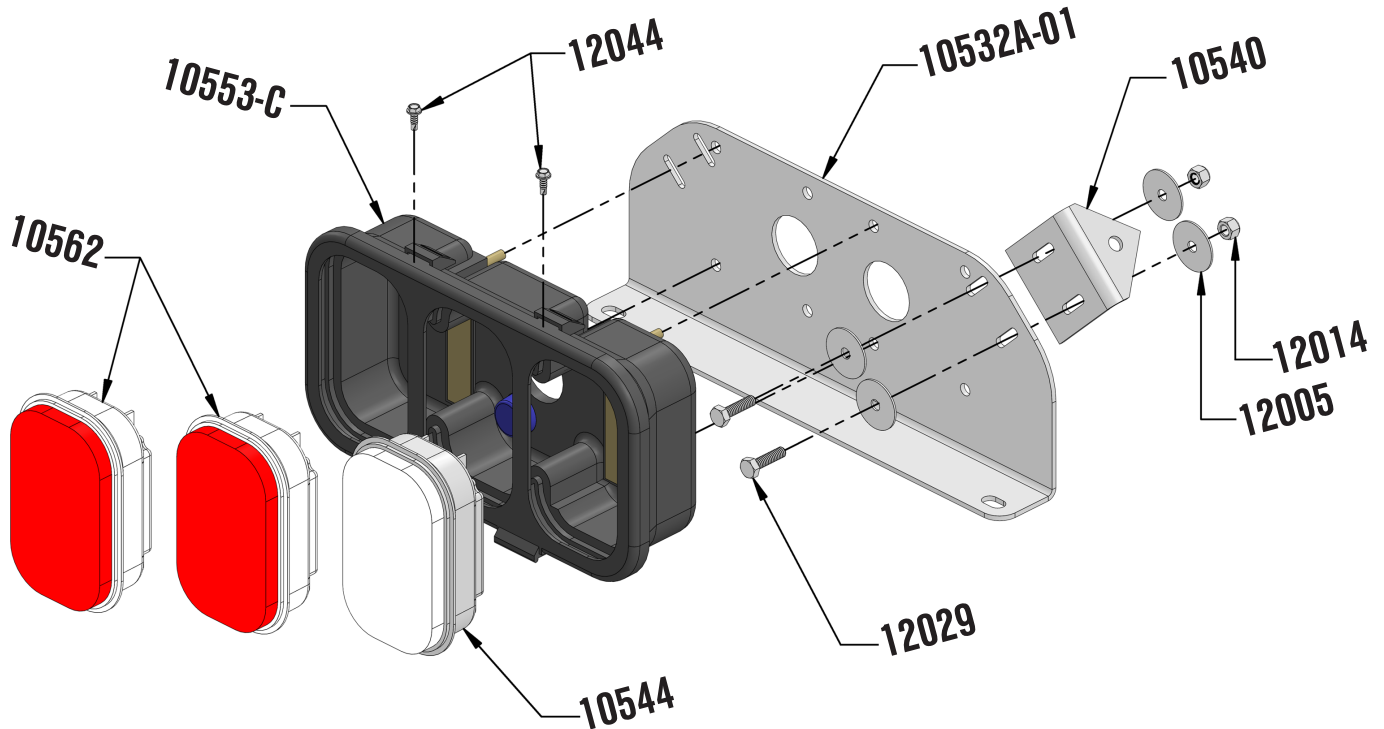
Motor and Electronics Wiring

For TraFix MASH Scorpion II® METRO TMA



Left Stored Tail Light Hardware 10508E-LED

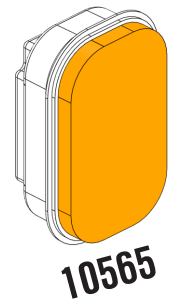
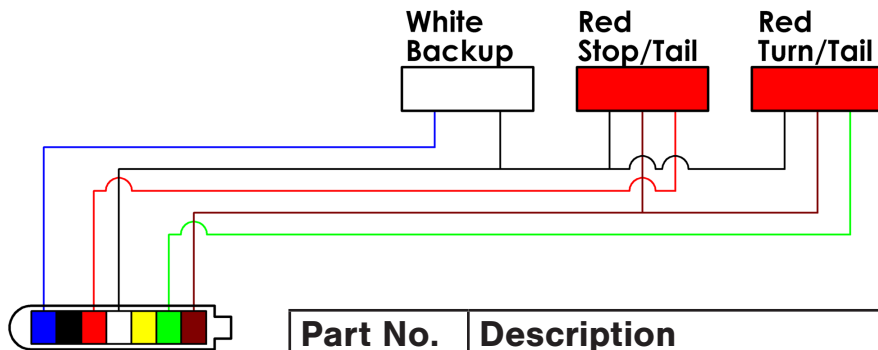
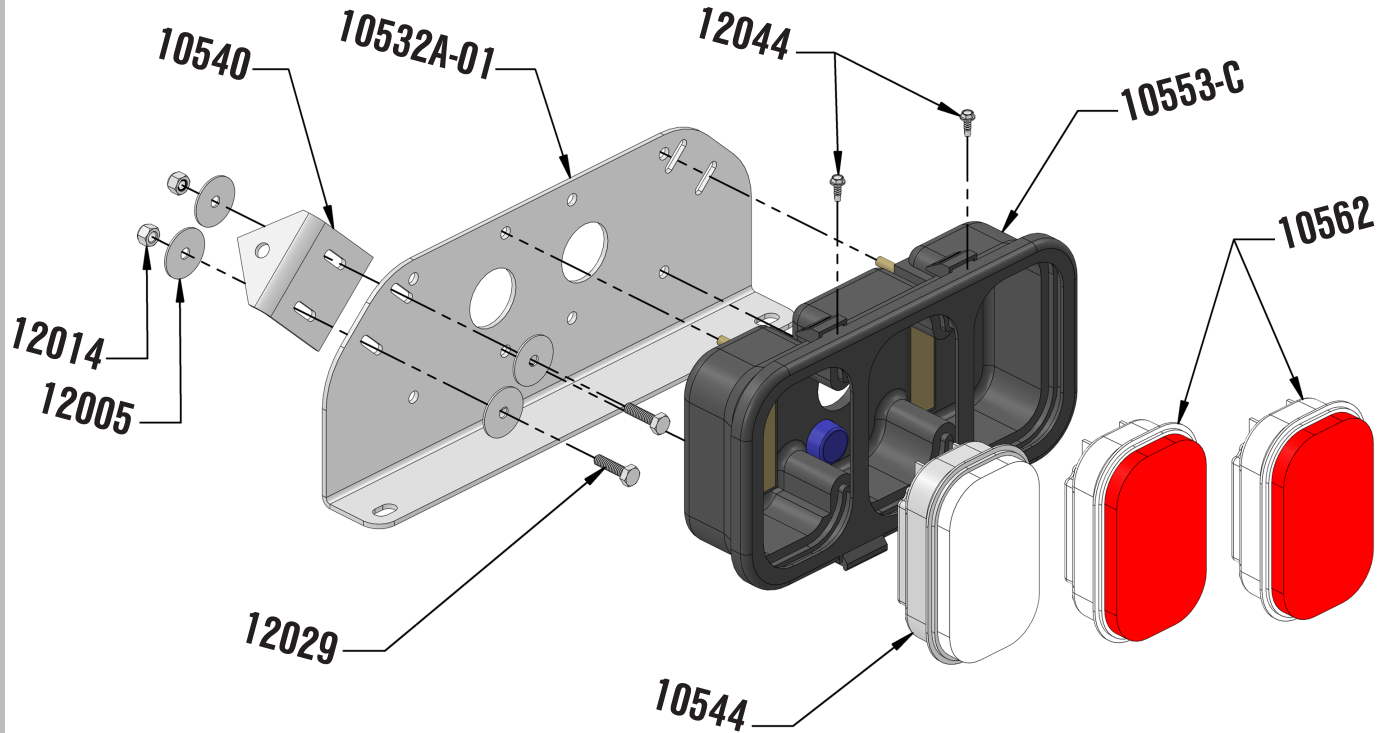
For *TraFFix MASH Scorpion II® METRO TMA*



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

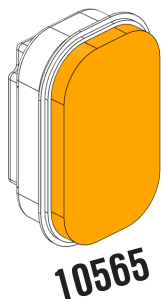
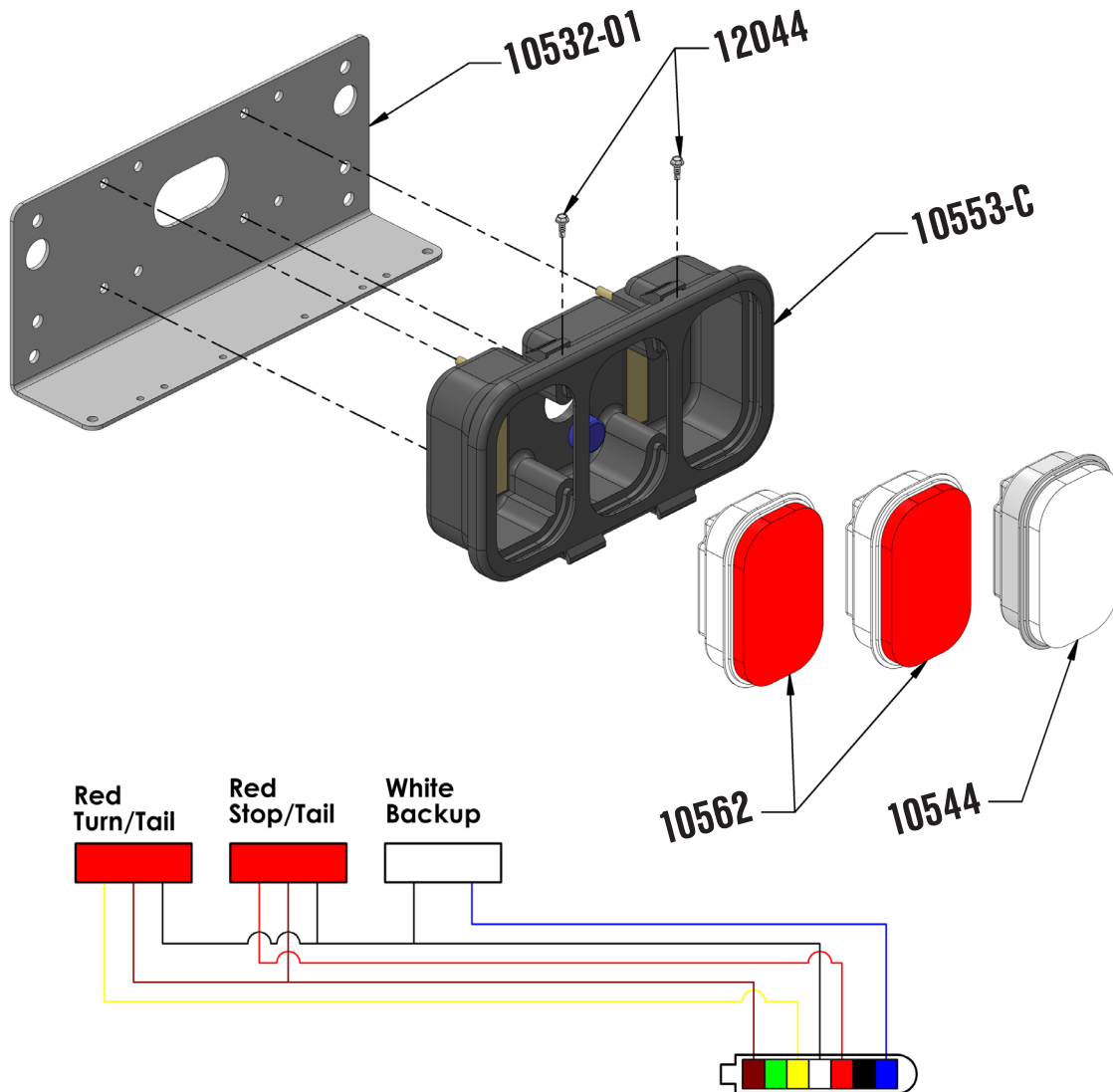
For TraFFix MASH Scorpion II® METRO TMA



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

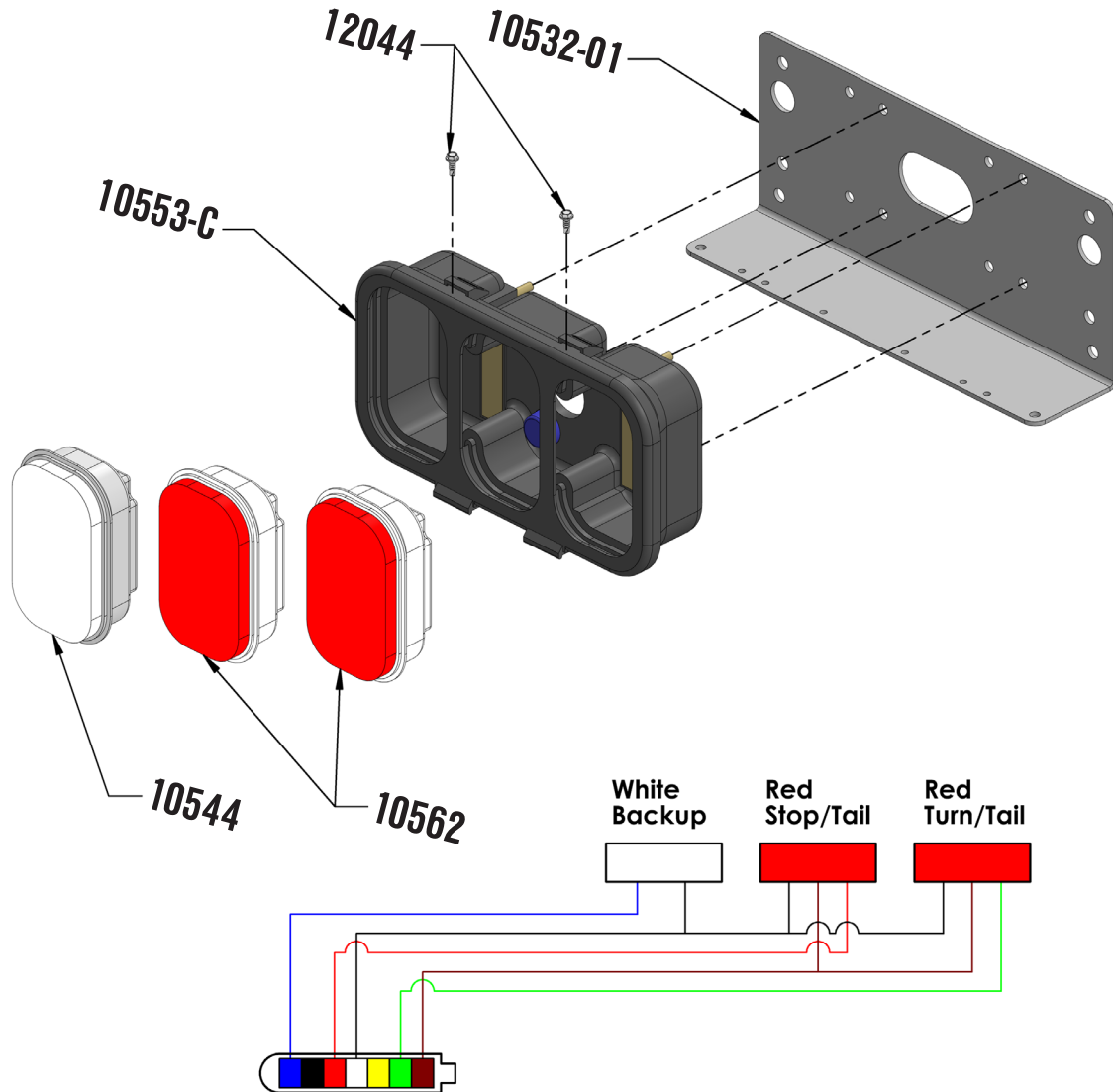
For TraFFix MASH Scorpion II® METRO TMA



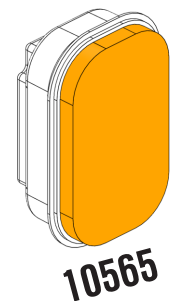
Part No.	Description	Qty
10532-01	Bracket, Universal	1
10553-C	Light Housing, Rubber	1
10562	LED Light, Red, Stop-Turn-Tail	2
10544	LED Light, White, Backup	1
10565	LED Light, Yellow, Turn	0
10519	Cartridge Tail Light Cable, Left, 120 Inch	1
12044	Screw, #8 x 1/2", Self Drilling, Hex Head	2

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


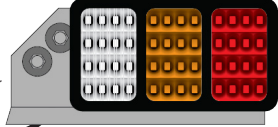
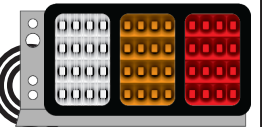
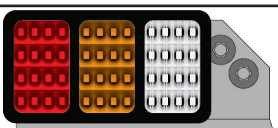


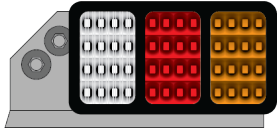
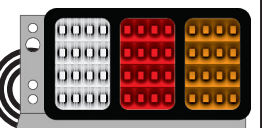

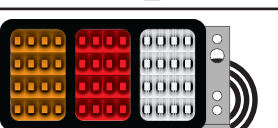

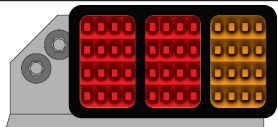
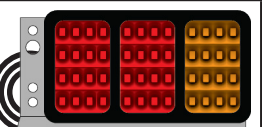

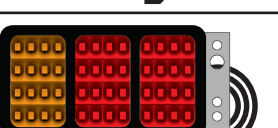


Appendix B

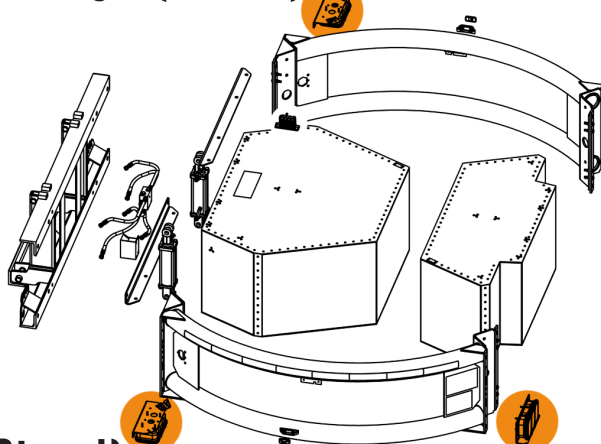
Alternate Configurations

International Light Assemblies

For TraFFix MASH Scorpion II® METRO TMA

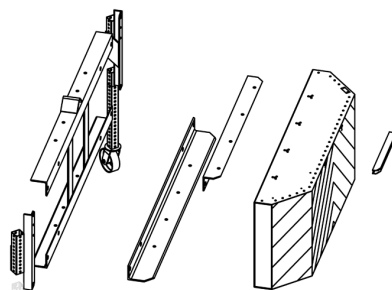
Color Pattern	Visible when Stored	Visible when Deployed
RYW 	Right, METRO Front 10505E-LED-RYW 	Right, METRO Rear 10505A-LED-RYW 
	 Left, METRO Front 10504E-LED-RYW	 Left, METRO Rear 10504A-LED-RYW
YRW 	Right, METRO Front 10505E-LED-YRW 	Right, METRO Rear 10505A-LED-YRW 
	 Left, METRO Front 10504E-LED-YRW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

Front Right (Stored)



Front Left (Stored)

Rear Right (Deployed)



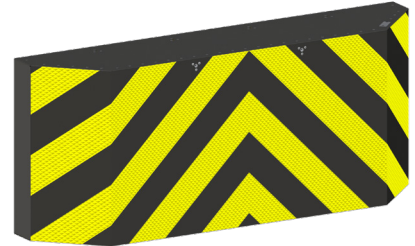
Rear Left (Deployed)

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

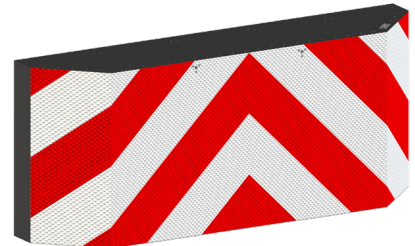
10400A-B1HI-6OW

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



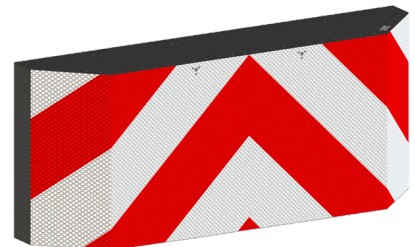
10400A-B1AV-6RW

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



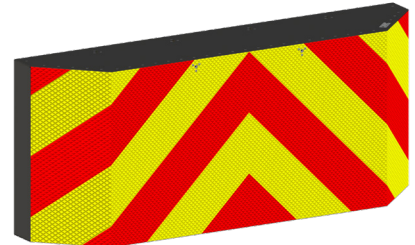
10400A-B1AV-8RW

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



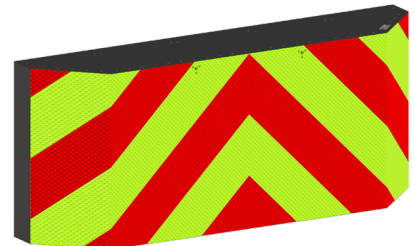
10400A-B1AV-6RY

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



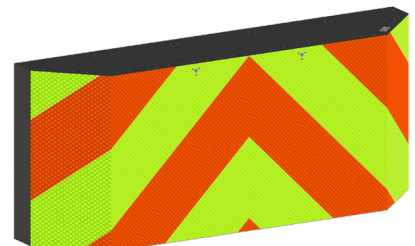
10400A-B1OR-6RL

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. →*

Fast-Trak Mounting

Truck-Side Trak Mounting Configurations

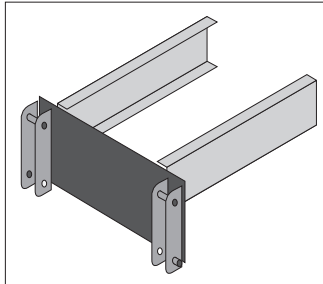
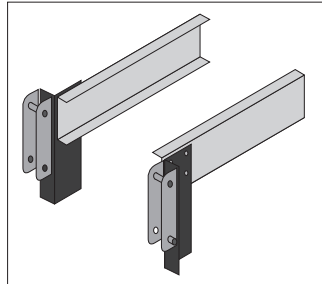
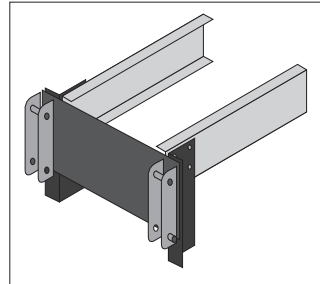


Plate Mounting
with Traks



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

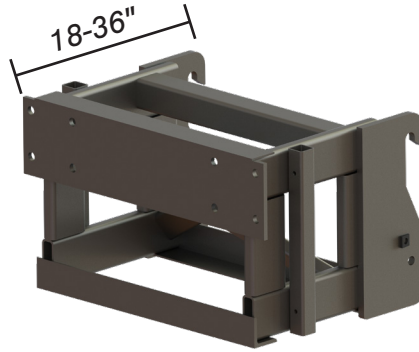
18" and above are Arrowboard Lift Compatible



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

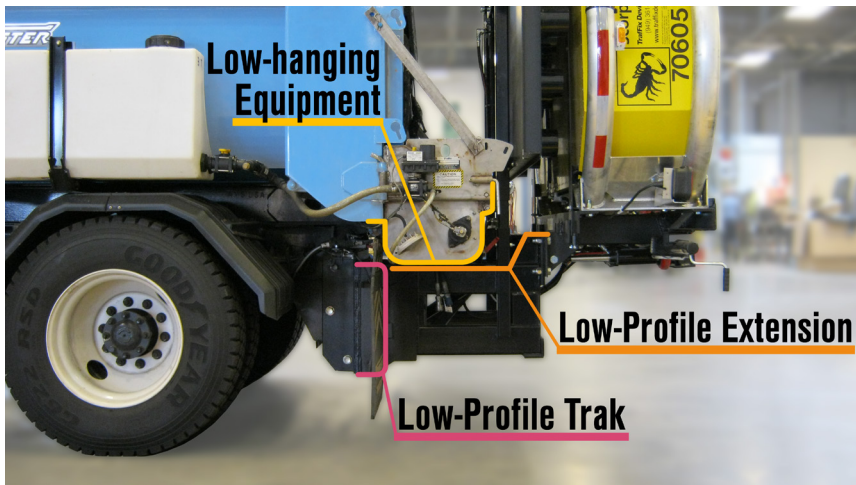
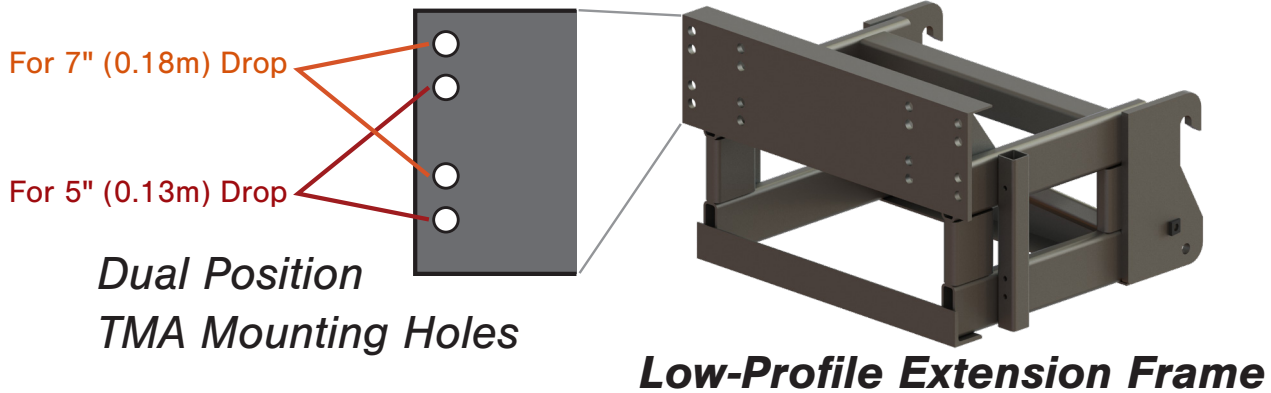
Mounting Type Included with Extension Frame:

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

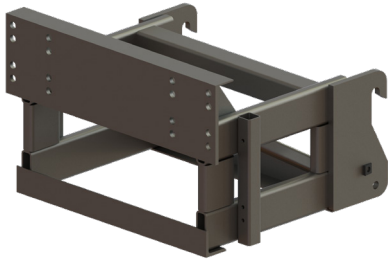
Mounting Type Included with Low-Profile Extension Frame:

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

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

Fast-Trak Hardware

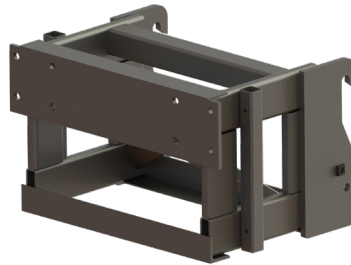
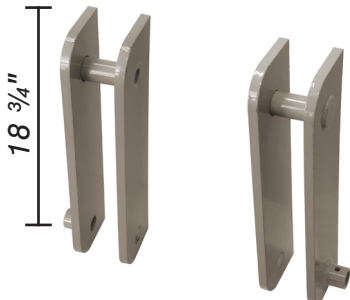
and Individual Components



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

Low-Profile Traks*

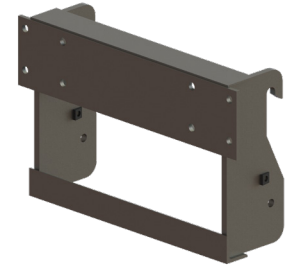
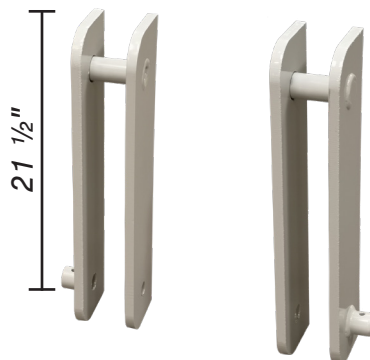
11173L 11173R



	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

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