IMPORTANT  Always refer to OEM repair procedures for proper repair guidelines. Never subject Tesla Model Y to pulling forces.
This users manual is designed to assist operators with the safe and efficient use of the Chief Model Y Structural Holding System. When used with Chief Electronic Measuring, the parts holding system provides operators with the ability to accurately and securely hold replacement parts during vehicle repair.

**IMPORTANT:**
This manual only identifies basic usage procedures for the Model Y Structural Holding System, it must be used with the Chief Structural Holding System. The usage of the system is limited only by the imagination of the technician doing the work.

The Chief Model Y Structural Holding System is designed for the holding and positioning replacement parts. It is not designed as a replacement for Chief Anchoring. **[IMPORTANT]** The Model Y Structural Holding System must not be subjected to pulling forces. The Chief Universal Stands provided will serve as the primary vehicle holding.

Because Chief Model Y Structural Holding System works with Chief electronic measuring, special attention should be given to the replacement of the Structural Holding stands during setup. Best results will be achieved with the stands located on the perimeter of the vehicle being repaired to prevent shading of measuring targets.
PLANNING AND SETUP

The Holding System is a universal system that will adapt to any Chief style systems with rectangular holes in the deck. The Fixtures are designed to be bolted to any existing threaded bolt or any location there is a threaded nut, flange or boxed rail on a vehicle. This could be used with suspension (components) that are installed or removed and are designed with an offset to also be used with Chiefs computerized measuring system. The system includes short vertical fixtures and tall vertical fixtures that will accommodate most bolts or threaded holes from 6mm to 25mm with the use of bushings. The large and tall horizontal fixtures are designed for any bolts or bolt hole ranging from 6mm to 25mm with the use of bushings that is facing forward, inward, outward or rearward.

Additional attachments will allow for connection of the fixture to the structure in several different methods. The angle adapter allows for the location of the fixture to be used if the location is at an angle.

**Note:** All bushings are designed to allow for the correct sizing of the hole for the bolt to be used to allowing for centering of the Fixture and should be placed on the opposite side of the fixture away from the structure.

A heavy three-ear rigging nut can be placed directly below the foundation adapter. This will serve as a cable tie off when additional stability is needed.
Directly below the foundation adapter is the turnbuckle adjustment mechanism. The foundation adapter threaded stud screws into the top of the turnbuckle center section while the Structural Holding lower adapter screws into the bottom. A two-ear wing nut is threaded on to the foundation adapter to lock the top half of the turnbuckle once correct vertical position is achieved. A three-ear wing nut is threaded on the lower adapter to lock that half of the turnbuckle.

**Note:** The long threaded portion of the Structural Holding lower adapter utilizes a left hand thread, which is compatible with the bottom of the turnbuckle center section (marked with a v-groove around the outside of the part) and the three-ear wing nut.

<table>
<thead>
<tr>
<th>Turnbuckle Assembly</th>
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<tbody>
<tr>
<td><img src="diagram.png" alt="Turnbuckle Assembly Diagram" /></td>
</tr>
<tr>
<td>1. Completely thread two-ear wing nut onto foundation adapter threaded stud.</td>
</tr>
<tr>
<td>2. Thread non-grooved end of turnbuckle center section completely onto foundation adapter threaded stud.</td>
</tr>
<tr>
<td>3. Completely thread three-ear wing nut onto Parts Holding lower adapter.</td>
</tr>
<tr>
<td>4. Completely thread Structural Holding lower adapter three-ear wing nut assembly into grooved end of the turnbuckle center section.</td>
</tr>
</tbody>
</table>

The short threaded side of the Structural Holding lower adapter is a standard right hand thread that is compatible with the Structural Holding stand base and extension tubes.

**Note:** It is not necessary to completely disassemble the turnbuckle section when changing setups or reconfiguring the stand. The fully assembled turnbuckle section can be unscrewed from the rest of the stand system using the included spanner wrenches.

**Note:** For best results, always have foundation adapter and the lower Structural Holding adapter threaded into the turnbuckle center section equal amounts before starting up.

Vertical positioning of the Model Y Structural Holding System, when used in conjunction with the Structural Holding System, uses a turnbuckle style adjustment over a 4.5” (115mm) range. Additional height can be achieved by using the extension tubes and extension adapters included with the system. Compare the approximate height required to the table below to determine how to configure the extension tubes and adapters.
502000  SHORT VERTICAL FIXTURE  (FOR EXTENDED REACH USE CK110123)

502008  TALL VERTICAL FIXTURE

502005  LARGE HORIZONTAL FIXTURE

502019  TALL HORIZONTAL FIXTURE

502074  FLAT FIXTURE

CK130224  PINCH WELD SUPPORT

CK110124  ADAPTER WITH LEVER ADJUSTMENT

FJ6171-1  90mm EXTENSION

CK110123  EXTENDED REACH VERTICAL FIXTURE

CK110230  STANDOFF  104 M12 X 85 Lg.

CK110228  STANDOFF  104 M14 X 115 Lg.

CK110214  A-PILLAR FIXTURE RIGHT

CK110215  A-PILLAR FIXTURE LEFT

CK110223  UPPER GRILL SUPPORT

CK110224  ADAPTER WITH LEVER ADJUSTMENT
502165  
PILOT BUSHING  
6mm

502086  
PILOT BUSHING  
8mm

502027  
PILOT BUSHING  
10mm

502028  
PILOT BUSHING  
12mm

502029  
PILOT BUSHING  
14mm

502030  
PILOT BUSHING  
16mm

502035  
PILOT BUSHING  
18mm

502036  
PILOT BUSHING  
20mm

502037  
PILOT BUSHING  
22mm

CK120110  
SPACER BAR
Once the proper configuration has been determined, assemble the required Structural Holding components on the base stand. The base stand should be loosely secured to the frame machine deck using M20x2.5 hardware and a UAS fastener plate. The M20x2.5 hardware will be fully tightened after the Structural Holding stand is located properly. Once the Structural Holding components are assembled, they can be fully tightened using the included spanner wrenches.

**Securing New Part**
Secure the replacement part to the Structural Holding stand using the foundation adapter and fixtures. Horizontal adjustment of the part can be made by lightly tapping on the stand base. Once the part is located correctly in both horizontal directions, torque down the stand base using a 30 mm wrench or socket. Vertical adjustment of the parts is achieved by turning the clockwise rotation will raise the stand. The turnbuckle section should turn easily by hand, but there is a provision to use a spanner wrench if necessary. Once the part is at the proper vertical position, tighten the top and bottom wing nuts to lock the turnbuckle center section in place and insert the release pin into one of the three hole positions.

**Note:** For best results, the two-ear and three-ear wing nuts should be threaded away from the turnbuckle center section when making vertical position adjustments.
Model Y Set-up

Positioning of the vehicle on the deck is very important, and the vehicle should be carefully located on the frame machine based on the type, severity and location of the damage. Once positioned, refer to your manual for proper installation and set-up procedures.

1. The initial setup requires four center section locations to be installed. Two in the front of the center section and two in the rear of the center section. Additionally, four fixtures must be placed on the front and rear cradle, for a total of eight point holding for entire vehicle, see example below.
Setting a level datum for Center Section:
1. Assembly Base (499118), 90mm Extension (FJ6171-1), Adapter Pad (CK110124), and Pinch Weld Support (CK130224).

2. Adjust Adapter Pad to establish level datum, Pinch Weld cut height 333mm (13-1/8”).

3. Assembled Base Stand will be placed in each corner of Center Section of vehicle, as outlined in the following pages.

4. Final adjustments to raise or lower is achieved by rotating handle.
1. Locate four (4) Jacking Points on underside of vehicle.

2. Place Base Stand at each Jacking Point located in center section of vehicle.

3. Confirm Base Stand Assembly is adjusted to 333mm (13-1/8") at the pinch weld to maintain a level datum for placing fixtures.
Pinch Weld Support

Location Requirements

- Clamps must be located under the jack pad features on the Body Side Outer (indicated by red arrows).

- Clamps must not block access to factory lift points on the HV battery enclosure (indicated in yellow).

- Clamps must only engage the flat surfaces of the pinch weld flange.

- After stands are placed in each corner of center section at points shown, lower vehicle onto pinch weld supports (CK130224) and confirm vehicle is at a level datum.

- Continue to place fixtures as required.
Pinch Weld Support
Surface Area Requirements

• Minimum of 4 clamps required when securing vehicle.

• Each clamp must engage a minimum of 100mm in cumulative length of pinch weld.

• Each clamp must engage 11mm in height of the pinch weld.
Complete Vehicle Fixturing Locations - Mechanicals In - Front and Rear Cradle Bolts

Front

1  2  3  4

Rear

5  6  7  8

9  10  11  12
Complete Vehicle Fixturing Locations
Front and Rear Cradle Bolts
BIW Underbody Fixturing Locations - Mechanicals Out

Front

13 15 17 19 21

Rear

27 28 29 30 31

21 23 24 25 26 28 
BIW Side Body Fixture Locations - Mechanicals Out
BIW Front Rail Fixture Locations - Mechanicals Out

42 RH and LH
43 Center

40 RH
41 LH

BIW Front Rail Vehicle Fixturing Locations

43

42

40

41
BIW Front and Rear Vehicle Strut Fixturing Locations
BIW Rearbody Fixture Locations - Mechanicals Out

BIW Rearbody Vehicle Fixturing Locations