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*Temporary Portable Rumble Strip  **Rumble Strip Handling Machine
WHO WE ARE

WE ARE PSS:
For over 40 years, PSS has designed innovative solutions that can safeguard worksites and save lives. Our goal is to design products that allow for safe travel so that everyone may return home safely at the end of the day.

We don’t just talk about Innovations for Safety® — we live it. We believe that bold ideas and hard work produce outstanding results.

PSS strives to create real solutions for real people. Through continuous innovation and with consultation, education, and training, we work to save lives today, tomorrow, and for decades to come.

ROADQUAKE® SAVES LIVES:
RoadQuake temporary portable rumble strips demonstrate our commitment to continuous innovation. Over ten years we have designed 85 iterations of RoadQuake to deliver the field-proven product in use today.

With a sound and feel comparable to permanent, milled-in rumble strips, RoadQuake focuses the drivers’ attention back to the road as they approach an active work zone.
ROADQUAKE® 2F APPLICATIONS

ROADQUAKE TPRS APPLICATIONS:

In December, 2008, we introduced our first commercially viable RoadQuake Temporary Portable Rumble Strip.

Since then, users have deployed RQ2F arrays in thousands of work zones. Collectively, those strips have experienced well in excess of 5 billion vehicle hits, from motorcycles and sub-compacts to farm equipment and 80,000 lb. semi-trailers.

Field evidence overwhelmingly demonstrates that RQ2F effectively alerts distracted drivers, possibly reducing crashes and saving lives in work zones.

On any given day RoadQuake is used in two-lane, two-way flagging operations across the country. This application is now an accepted safety countermeasure by Departments of Transportation.

EXPANDED RQ2F APPLICATIONS:

With RAPTOR Rumble Strip Handling Machine, we can now recommend RQ2F in work zones beyond two-lane, two-way flagging applications. With RAPTOR, users can effectively deploy RQ2F in high-speed, high volume, multilane closures. Other life saving applications such as moving or mobile operations can now be considered.

RQ2F and our specialized handling equipment can help further protect workers, and reduce exposure to live traffic.

Please visit pss-innovations.com/our-team to contact your PSS Regional Manager for a product demonstration.
ROADQUAKE® 2F FEATURES

TEMPORARY:
» Ideal for short duration work zones where daily installation and removal is required.
» Will not damage roadway surface

DURABLE:
» Three to five year life under typical conditions.
» Suitable for use in the rain and in temperatures as low as 0°F (-18°C) and as high as 180°F (82°C).
» For use in posted speed limits up to 80 MPH.
» Three-year prorated limited warranty

EASE OF INSTALLATION:
» No installation equipment needed. A crew of two can install an array in minutes
» Does not require glue or fasteners.
» Quick installation and removal.

ADDITIONAL ROADQUAKE 2F FEATURES:
» RoadQuake 2F generates the similar level of sound and vibration as milled-in shoulder and centerline rumble strips.
» Covers the entire width of a lane when unfolded.
» Folds to 66” length. Weighs 105 lbs.
» Molded handles for installation and handling.
» The non-slip textured surface helps to keep RoadQuake 2F TPRS in place.
» Bevels on leading and trailing edges allow motorcycles to traverse the RQ2F safer.
» Meets Section 6F.87 of the MUTCD, 2009 Edition.
» In addition to the color black, white and orange are available for usage in the United States. Other colors such as yellow are available to our customers outside the United States.
» Molded-in red stripe and “This Side Down” label on the bottom-side of strips indicate orientation for correct installation.

ROADQUAKE® SAFETY SYSTEM:

RoadQuake® Safety System is a suite of safety devices that includes RoadQuake TPRS as well as accessories that make RoadQuake use safer and easier.

1. **RoadQuake® Temporary Portable Rumble Strip (RQ2F):** RQ2F is the fundamental component of RoadQuake Safety System. Designed to reduce accidents and save lives, RQ2F alerts drivers to changing road conditions.

2. **RoadQuake Best Practices Guide** provides users with deployment, retrieval, and maintenance practices to achieve optimal performance of RQ2F.

3. **RoadQuake T-Handle** reduces the potential for superficial injury caused by manually lifting and carrying RQ2F.

4. **CRIB® Carriers** helps workers deploy and retrieve RQ2F. Reduces workers’ time in live traffic.

5. **RoadQuake® Retrieval System** pulls RQ2F into CRIB with little manual effort. Reduces workers’ exposure to live traffic and reduces manual exertion, possible injury.


**WARNING:**

» Read full instructions prior to use.
» RoadQuake® 2F Retrieval System is designed to only retrieve PSS RoadQuake 2F Temporary Portable Rumble Strip from roadway.
» Inspect Retrieval system before use. Replace worn or damaged parts.
» Keep away from all moving parts. Personal injury could result.
» Do not operate Retrieval system unless properly mounted to RoadQuake 2F CRIB® Cargo Carrier.
» Upon work completion, remove Retrieval System from CRIB; stow safely.
DEPLOYMENT AND RETRIEVAL METHODS:

RoadQuake TPRS may be deployed and retrieved manually, or by using the RoadQuake handling equipment for faster, easier, and safer use.

1. Manual RoadQuake handling using T-Handle.
2. RoadQuake 2F CRIB® Cargo Carrier transports RoadQuake and can assist in the deployment and retrieval of RQ2F.
3. RoadQuake Retrieval System pulls RQ2F from the road and back into CRIB.*
4. RoadQuake RAPTOR® Rumble Strip Handling Machine transports, deploys, realigns, and retrieves RQ2F while keeping workers safely off the road.

*CRIB and Retrieval System sold separately.
ROADQUAKE® OPTIMIZATION

ROADQUAKE BEST PRACTICES GUIDE:
We published our Best Practices Guide to provide RoadQuake users with safe, effective methods to achieve optimal performance of RQ2F.

In this guide, users are instructed on recommended RoadQuake use and handling according to internal field-testing. The guide features our recommended best practices in:

» Array configuration and placement
» Manual deployment and deployment with our handling equipment
» Monitoring deployed arrays
» Recommended traffic control plans
» TPRS movement and allowance guidelines

INSTALLATION GUIDANCE:
To reduce the possibility of upside down deployments, PSS has added several indicators for proper orientation on RoadQuake strips:

» Embedded text reads “THIS SIDE DOWN” on the underside of the strip, near the handles.
» A red stripe runs down the center of the underside of strips.
» Red “INSTALL THIS SIDE DOWN” warning labels, in English and Spanish, are applied to two brackets of each strip.

If strips are deployed correctly, workers will not see the warning indicators.

Additionally, a instruction card in both English and Spanish accompanies each strip at time of shipment.
ROADQUAKE RECYCLING PROGRAM:

As another innovative process, PSS offers our RoadQuake Recycling Program. PSS will now pick up users’ retired strips that have reached the end of their service life and dispose of them in an environmentally conscious manner. Our program offers a more environmentally friendly, cost-effective, and convenient option than disposing of RQ2F in a landfill.

Users should routinely inspect their TPRS inventory for damage and wear. Users can then determine strips that have reached their end-of-service life.

Under our **PSS RoadQuake Recycling Program**, users simply:

» Collect enough end-of-service life RoadQuake to fill a pallet: 24 each RoadQuake 2F, or 36 each RoadQuake 2 Modular TPRS.

» Contact your local PSS Regional Manager. (Visit pss-innovations.com/our-team to obtain contact information.) Advise on the type of TPRS and quantity collected for recycling.

» Band and shrink-wrap RQ on a pallet. RQ must not hang over the pallet edges.

» Once ready for shipment, e-mail a photo of the pallet to your PSS Regional Manager.

PSS will arrange for a return shipment to our nearest disposal and recycle facility **at no charge to the user**.

PSS will dispose of the strips using best practices for the material and for the environment. Whenever possible, we will salvage and recycle material from the returned RQ2F.
ROADQUAKE® RAPTOR®

RAPTOR TPRS HANDLING MACHINE:
RAPTOR is an automated handling machine that transports, deploys, realigns, and retrieves RoadQuake 2F in work zones while keeping your workers off the road.

The machine eliminates the need for workers to manually lift RQ2F and deploys a three strip array in less than 90 seconds.

RAPTOR IMPROVES WORK ZONE SAFETY:
RoadQuake allows for expanded application of RQ2F, making it ideal for most short-duration, moving, and mobile work zones.

RAPTOR mounts to the front of the vehicle. The back of the vehicle is free for other safety equipment like a Truck or Trailer Mounted Attenuator (TMA) and/or a flashing arrow board.
FUNCTIONS OF RAPTOR:
In operation mode, these images demonstrate the deployment of RQ2F.
1. The Magnet Bar pulls out one RQ2F from the tray.
2. The Magnet Bar moves up and out from the tray.
3. The Magnet Bar lowers the RQ2F to the deployment location in the roadway.
4. The Magnet Bar releases the RQ2F onto the road surface.
Repeat process until installation is complete.

*To understand all of the functions of RAPTOR, please review the RAPTOR Instruction Manual.
RAPTOR® MODES

TRANSPORT MODE:

1. RQ2F Tray
2. RQ2F (12 Strip Capacity)
3. Folding Guide Marker
4. Auxiliary Headlights
5. Work Lights

Roadway Surface

lift points
30” wide
OPERATIONAL MODE:

1. Position Lamps
2. RoadQuake® 2F
3. Warning Indicator Light
4. Operational Indicator Light
5. Forward-Facing Camera
6. Articulated Magnet Bar
7. Positioning / Alignment Rod
RAPTOR® OPERATIONAL MODE

SIDE VIEW, ARM RETRACTED:
*Recommended ground clearance with full RAPTOR

SIDE VIEW, ARM EXTENDED:
FORWARD-FACING CAMERA
DOWNWARD-FACING CAMERA
TPRS TRAY

Roadway Surface
RAPTOR® SPECIFICATIONS:

RAPTOR is designed exclusively for use with RoadQuake 2F Temporary Portable Rumble Strips. **Do not attempt to use RAPTOR to carry any other objects.** For additional vehicle requirements, contact your PSS Regional Manager.

### RAPTOR SPECIFICATIONS

<table>
<thead>
<tr>
<th>Function</th>
<th>Transports, deploys, realigns, retrieves RoadQuake 2F TPRS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capacity of TPRS</td>
<td>12</td>
</tr>
<tr>
<td>Operating System</td>
<td>Electric / Self-Contained Hydraulic</td>
</tr>
<tr>
<td>Recommended Mounting Height from Road</td>
<td>8-12&quot; (20-30 cm)</td>
</tr>
<tr>
<td>RAPTOR Weight (Empty)</td>
<td>1,530 lbs. (694 kg)</td>
</tr>
<tr>
<td>TPRS Individual Weight</td>
<td>105 lbs. (48 kg)</td>
</tr>
<tr>
<td>Total Weight (RQ2F &amp; RAPTOR)</td>
<td>2,790 lbs. (1,266 kg)</td>
</tr>
</tbody>
</table>

### VEHICLE REQUIREMENTS *(Provided by user)*

| Front Axle Load Capacity          | 3,000 lbs. (1,360 kg)                                      |
| Power                             | 12 VDC / 140 peak Amp                                     |
| Mounting                          | DIN Plate                                                 |

### OTHER FEATURES

| Lights                            | 2 Each Aux. Headlights 4 Each Work Lights                  |
| Guide Markers                     | 2 each 48" L (122 cm)                                     |
| Cameras                           | 1 Forward-Facing 1 Downward-Facing                        |
| Remote Control                    | 1 Push-Button Remote                                      |

### ACCESSORIES TO CONSIDER

| DME (Distance Measuring Equipment) | DME not provided by PSS                                  |
CRIB® CARRIERS

ROADQUAKE® 2F CRIB® FEATURES:
CRIB is a fully integrated cargo carrier designed specifically for the safe transport, deployment, removal, storage, and safekeeping of RQ2F.

CRIB Carrier Sizes:
- CRIB-6 holds six RQ2F
- CRIB-9 holds nine RQ2F
- CRIB-12 holds twelve RQ2F

Each CRIB carries a multiple of three strips, enough for the deployment and retrieval of up to four, three-strip arrays.
- Shortens workers’ time in traffic to deploy and retrieve strips, compared to manual handling.
- Deployment and removal of RQ2F can be a one-person job.
- CRIB mounts to exterior of the vehicle. Strips do not consume space in vehicle.
- Easier to place RQ2F in alignment with the deployment location.
- CRIB eliminates the inverted installation of RQ2F

CRIB MOUNTING WITH QUIK-DETACH:

<table>
<thead>
<tr>
<th>PRODUCT NAME AND IMAGE</th>
<th>QUANTITY AND TYPE OF QUIK-DETACH</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRIB-6</td>
<td>One Black Quik-Detach</td>
</tr>
<tr>
<td>CRIB-9</td>
<td>One Blue Quik-Detach</td>
</tr>
<tr>
<td>CRIB-12</td>
<td>30” on center</td>
</tr>
</tbody>
</table>

WARNING: The RoadQuake® 2F CRIB® -6 is designed for the exclusive use of RoadQuake 2F. DO NOT PLACE, TRANSPORT, OR STORE OTHER PRODUCTS IN CRIB.

WARNING: The RoadQuake® 2F CRIB® -9 is designed for the exclusive use of RoadQuake 2F. DO NOT PLACE, TRANSPORT, OR STORE OTHER PRODUCTS IN CRIB.

WARNING: The RoadQuake® 2F CRIB® -12 is designed for the exclusive use of RoadQuake 2F. DO NOT PLACE, TRANSPORT, OR STORE OTHER PRODUCTS IN CRIB.

FOR ROADQUAKE ARRAY SPACING: PSS-Innovations.com 800.662.6338 2444 Baldwin Road Cleveland, OH 44104

## CRIB® SPECIFICATIONS

<table>
<thead>
<tr>
<th></th>
<th>CRIB-6</th>
<th>CRIB-9</th>
<th>CRIB-12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions (WxHxL)</td>
<td>19 5/8&quot; x 15&quot; x 74 1/4&quot;</td>
<td>19 5/8&quot; x 19 9/16&quot; x 74 1/4&quot;</td>
<td>19 5/8&quot; x 24 5/16&quot; x 74 1/4&quot;</td>
</tr>
<tr>
<td>TPRS Capacity</td>
<td>6</td>
<td>9</td>
<td>12</td>
</tr>
<tr>
<td>Weight (Empty)</td>
<td>92 lbs (41 kg)</td>
<td>111 lbs (50 kg)</td>
<td>133 lbs (60 kg)</td>
</tr>
<tr>
<td>TPRS Weight</td>
<td>630 lbs (286 kg)</td>
<td>945 lbs (429 kg)</td>
<td>1,260 lbs (572 kg)</td>
</tr>
<tr>
<td>Total Weight (TPRS &amp; Carrier)</td>
<td>722 lbs (327 kg)</td>
<td>1,056 lbs (479 kg)</td>
<td>1,393 lbs (632 kg)</td>
</tr>
<tr>
<td>Mounting / Receiver</td>
<td>Class IV or V</td>
<td>Class V, or Custom by User</td>
<td>Custom by User</td>
</tr>
<tr>
<td>Pintle Mount</td>
<td>Included (2&quot;)</td>
<td>Included (2 1/2&quot;)</td>
<td>Not Included</td>
</tr>
<tr>
<td>Quik-Detach</td>
<td>1 Each Included (Black)</td>
<td>1 Each Included (Blue)</td>
<td>2 Each Included (Black)</td>
</tr>
<tr>
<td>Roadquake® T-Handle</td>
<td>2 Each Included</td>
<td>2 Each Included</td>
<td>2 Each Included</td>
</tr>
<tr>
<td>Guide Markers</td>
<td>36&quot; Included (91 cm)</td>
<td>48&quot; Included (122 cm)</td>
<td>48&quot; Included (122 cm)</td>
</tr>
<tr>
<td>Breakaway Pin Kit (1 TPRS)</td>
<td>1 Each Included</td>
<td>1 Each Included</td>
<td>1 Each Included</td>
</tr>
</tbody>
</table>

**NOTICE:** UNDERSTAND THE CAPACITIES AND CAPABILITIES OF YOUR VEHICLE PRIOR TO MOUNTING CRIB
CRIB® FEATURES:

1. **Guide Fins**: The fins guide RQ2F in and out of CRIB for easier handling.
   - CRIB-6: stack a max. of four loaded CRIB-6.
   - CRIB-12: stack a max. of two CRIB-12.

2. **Guide Markers**: Provides visual queues when the vehicle is traveling in reverse.

3. **T-Handle Holder**: CRIB stores and transports two RoadQuake T-Handles, which allow for easier manual lifting of RQ2F.

4. **Quik-Detach Mounting System**: Expedites the removal and installation of the CRIB Carrier.

5. **Retractable Ratchet Straps**: Straps extend from attached housing to secure RQ2F strips during transport.


7. **Roller Bearings**: Allow for easier retrieval and deployment of RQ2F in and out of the CRIB.

8. **QR Code**: Scanning the link on the front label directs to a dedicated web page instructing on appropriate RQ2F spacing.

9. **“Lift Here” Labels**: Decals on the front of CRIB indicating proper fork placement for forklift transport.

*New CRIB models do not stack with older models.

**Quik Detach for CRIB-6 (black) works for CRIB-6 and CRIB-9. Quik Detach for CRIB-9 (blue) works for CRIB-6, CRIB-9, and CRIB-12.
We use the CRIB-6 below to show our new design features, CRIB-9 and CRIB-12 also enjoy the same features.
RETRIEVAL SYSTEM FEATURES:

The Retrieval System removes RoadQuake 2F® Temporary Portable Rumble Strips (RQ2F) from the roadway with minor worker exposure or effort. Retrieval System incorporates a winch to aid in the removal of RQ2F.

» Features a powerful 4.1 HP, 12 V electric motor that pulls a 105 lb. RQ2F into CRIB in less than ten seconds.

» Reduces workers’ exposure to live traffic. Also reduces manual handling and exertion.

» Removal of RQ2F can be a one-person operation.

» Attaches quickly to either end of CRIB for retrieval of strips from either driver or passenger side.

» Power pack unit is a self-contained, charging electrical system. Charges from a 12-Volt automotive system. Maintains charge when plugged into running host vehicle. Power pack unit is weather-resistant.

» For use with CRIB-6, CRIB-9, and CRIB-12.

RoadQuake® 2F Retrieval System is designed to only retrieve PSS RoadQuake 2F Temporary Portable Rumble Strips from the roadway.

RETRIEVAL SYSTEM COMPONENTS:

1. Retrieval Plate
2. Retrieval Winch
3. Retrieval Rope (30 Feet)
4. Power Pack Unit
5. Power Pack Charger
6. Back-up Wired Controller
7. Wireless Remote Controller
8. Roller Bracket Assembly (Two Each)
9. Roller Bracket Clamps (Four Each)
10. Durable Pelican® Case
NOTES

Contact PSS customer service at 800.662.6338.