



BUILD IT YOURSELF BUMPER GUIDE

PART

1

20 x bumper tips

We gathered the best DIY tips to get you started.

The construction

Lighting and other finishing touches are also covered.

Everything you need to know to build a great-looking bumper for your tractor.

If you're going to do it anyway, why not do it well and nice right away?

The guide for the DIY builder



MAKE A TOP BUMPER

Since we started out this way ourselves and appreciate the DIY builder, we're happy to share this 'build-it-yourself' guide.

This is PART 1 with 10 tips. PART 2 will include another 10.

We collected 20 truly useful bumper tips, which we've thought long and hard about and learned over the years (12.5 years).

This way, you can do it right the first time ;)

PART 1

Contents

Don't miss **part 2** (tip 11 t/m 20)! Available for download soon!

TIP 1

Drawing with **SolidWorks**.

TIP 2

Use of **tabs**.

TIP 3

Which **ballast** material.

TIP 4

Distance **lift arm balls**.

TIP 5

Important when **welding**.

TIP 6

Shear bolt protection

TIP 7

Top link height.

TIP 8

Red-white panels.

TIP 9

Using a **rotating jig**.

TIP 10

Cutting steel.



TIP 1 SOLIDWORKS

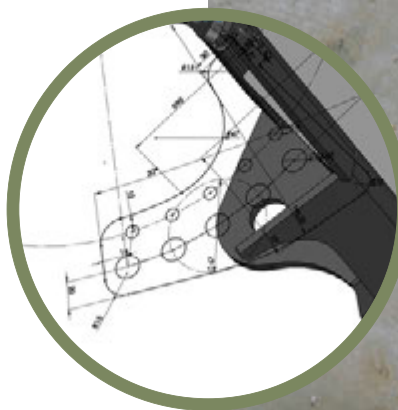
1

Ensure your construction is inherently strong, so you don't have to 'fix' it by using extra thick steel. This makes it strong and cost-effective.

SOLID CONSTRUCTION

By designing closed profiles, you can save many kilos of steel while keeping the construction very strong.

Become a true engineer and design your bumper in, for example, SolidWorks.



TIP 2 **TABS**

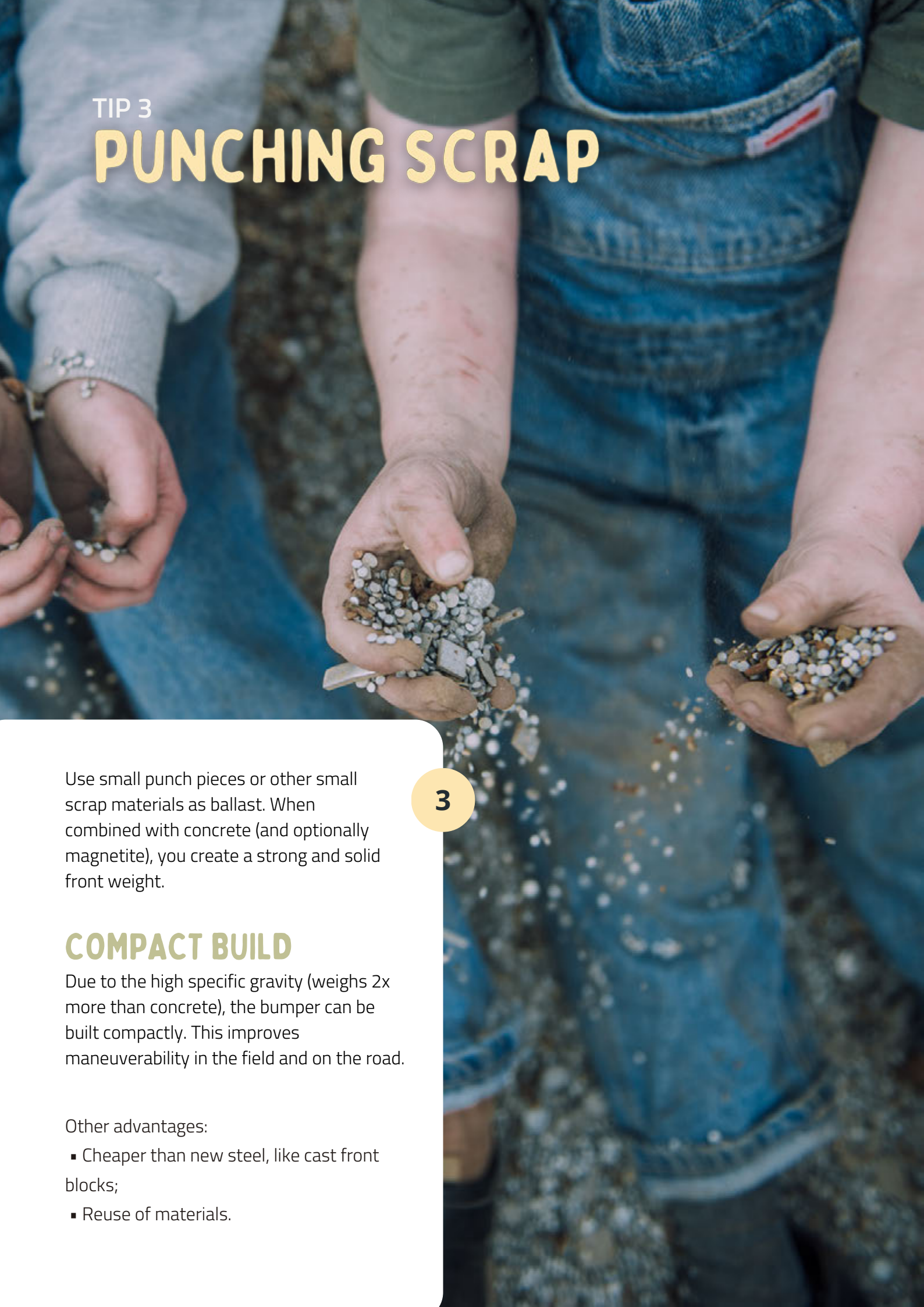
With tabs and slots, you can position parts with up to 0.2 mm accuracy—no need for complex jigs.

2

PUZZLE PIECES

By using tabs and slots, you can design it so it can't be assembled the wrong way during welding—like a SIM card with one angled corner.





TIP 3

PUNCHING SCRAP

3

Use small punch pieces or other small scrap materials as ballast. When combined with concrete (and optionally magnetite), you create a strong and solid front weight.

COMPACT BUILD

Due to the high specific gravity (weighs 2x more than concrete), the bumper can be built compactly. This improves maneuverability in the field and on the road.

Other advantages:

- Cheaper than new steel, like cast front blocks;
- Reuse of materials.

A close-up photograph of a person's hand holding a black measuring tape against a metal lift arm ball. The tape is extended, showing measurements from 83 to 91 cm. The background is a blurred industrial setting.

4

TIP 4

LIFT ARM BALL DISTANCE

The distance between lift arm balls should be 88 cm. That way, it fits category 2 and 3 front lifts.

LIFT ARM BALL HEIGHT

The height from the ground to the ball should be 40 cm. At this height, the bumper can be easily attached from the ground.

Extra tip: ensure the attachment point below the lift ball tapers, making it easier to connect..



TIP 5

WELDING

5

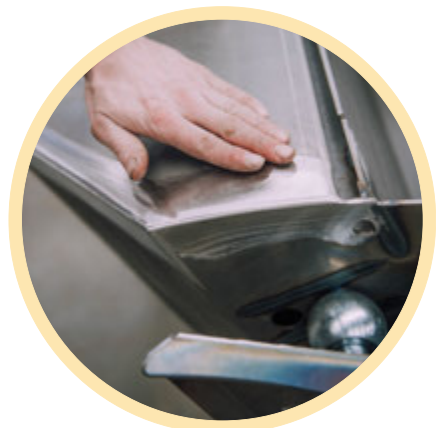
WELD PENETRATION

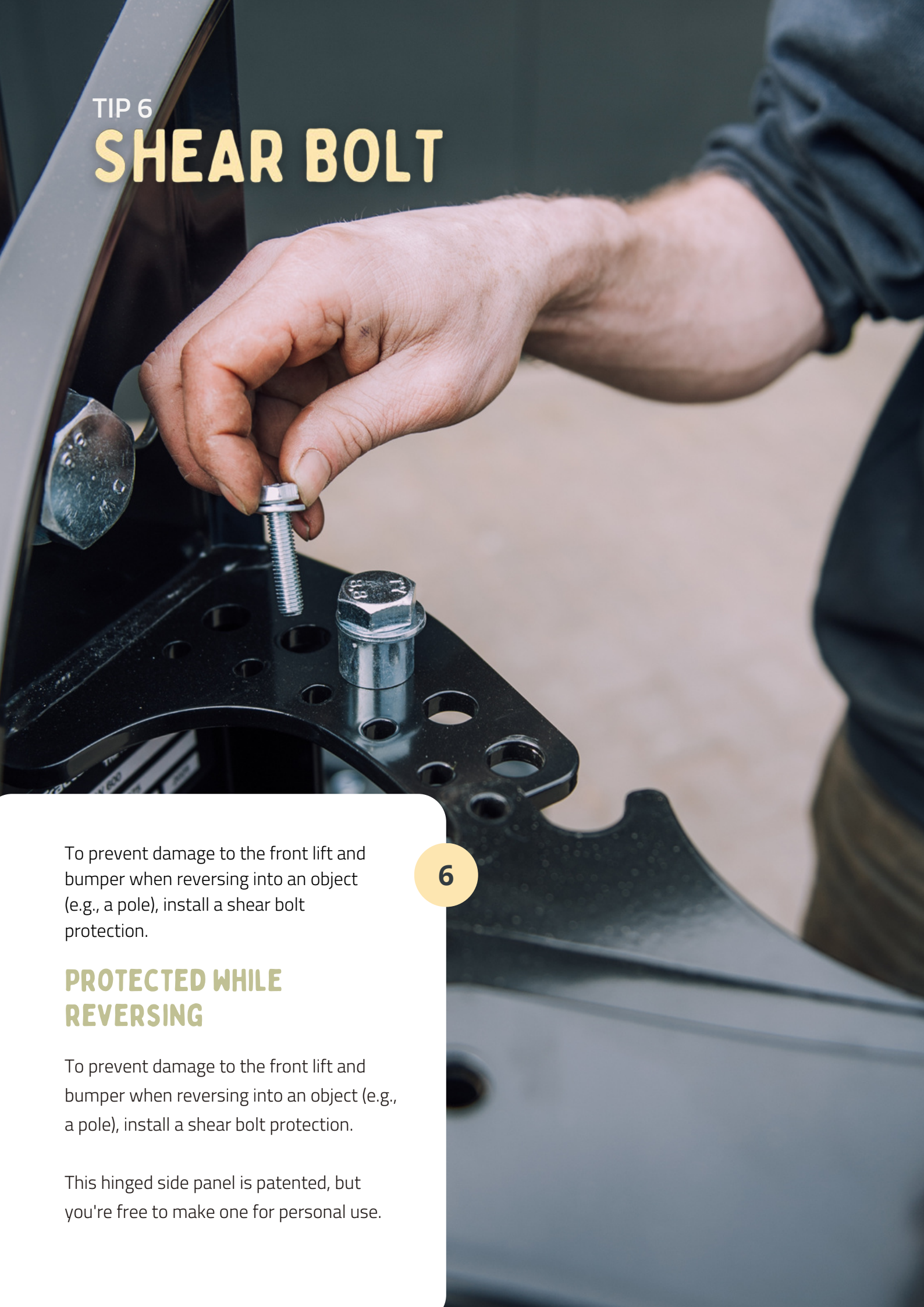
Ensure the weld penetrates well into both steel parts. This strengthens the joint and significantly reduces the risk of cracks.

Grind some welds flat for a clean finish. Use fiber discs with fine grit, and keep the angle grinder flat for a smooth result.

SPACERS

If using spacers, make them a few millimeters wider to compensate for shrinkage after welding (cooling).





TIP 6

SHEAR BOLT

To prevent damage to the front lift and bumper when reversing into an object (e.g., a pole), install a shear bolt protection.

PROTECTED WHILE REVERSING

To prevent damage to the front lift and bumper when reversing into an object (e.g., a pole), install a shear bolt protection.

This hinged side panel is patented, but you're free to make one for personal use.

6



TIP 7

TOP LINK HEIGHT

7

The distance from the lift ball to the top link ball should be approximately 50 cm.

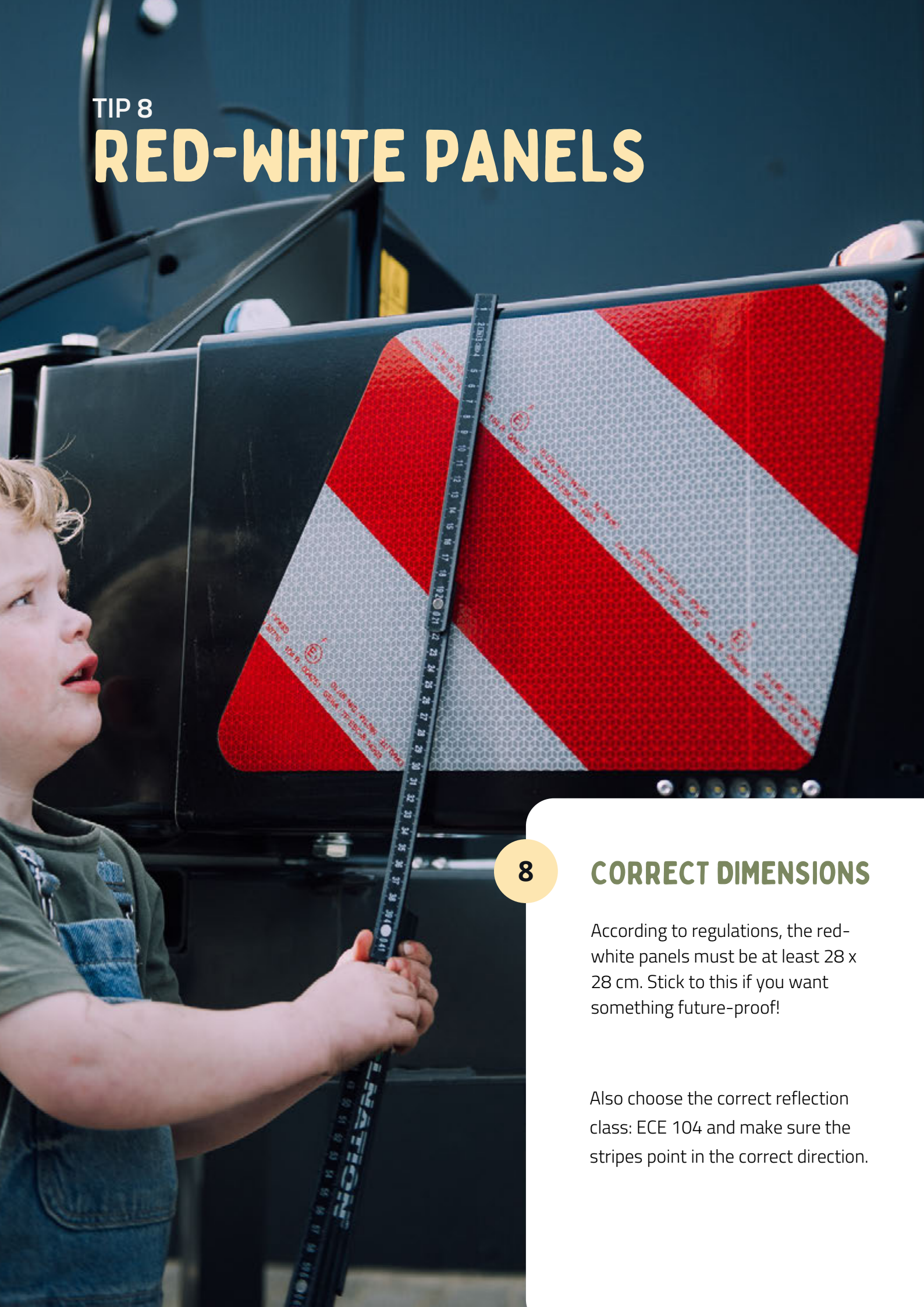
PARALLELOGRAM

If you maintain this distance, the front linkage acts as a parallelogram. This keeps the bumper nicely horizontal when raising or lowering the front lift

With one position above and one below, there's always room for adjustment.

TIP 8

RED-WHITE PANELS

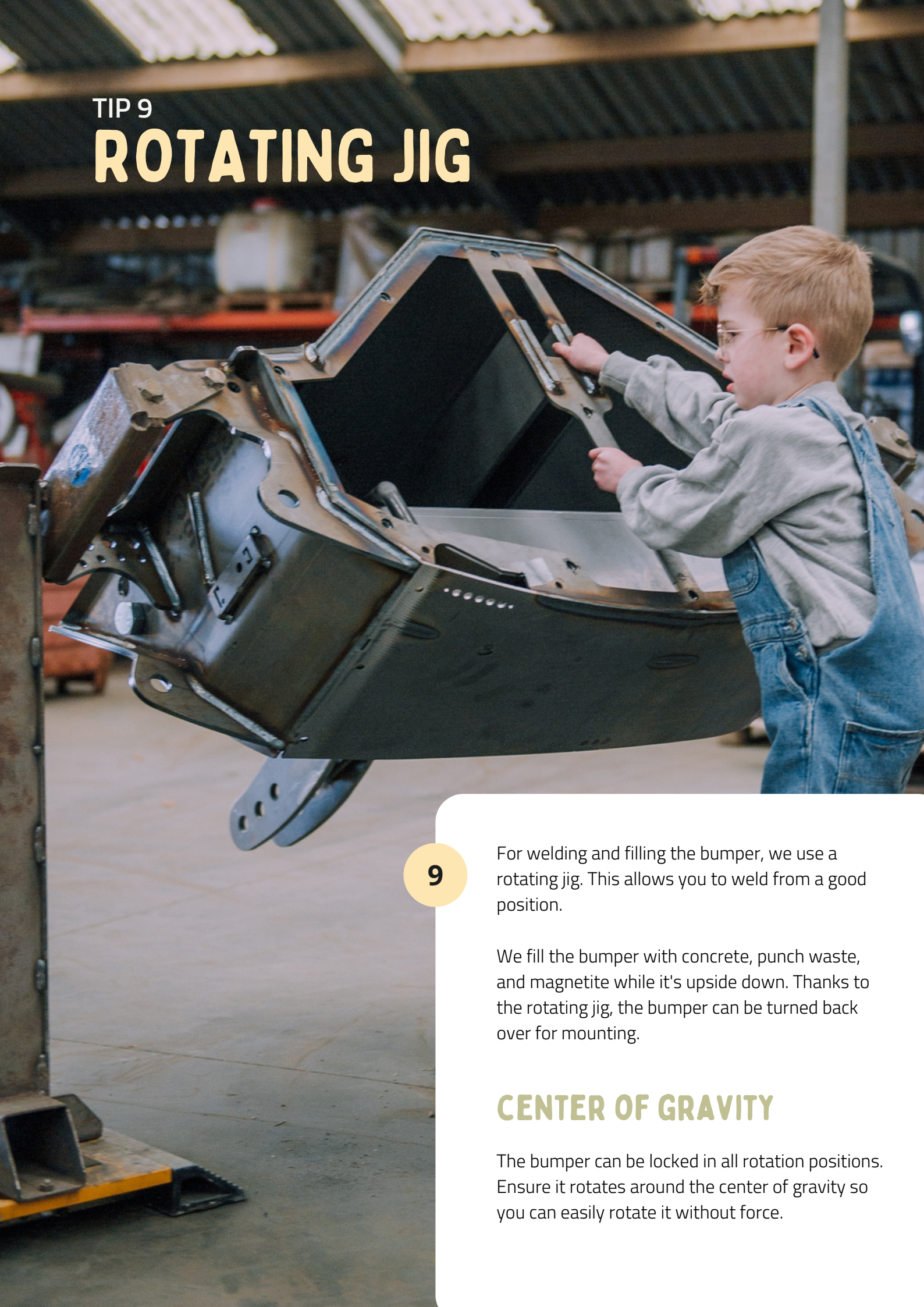


8

CORRECT DIMENSIONS

According to regulations, the red-white panels must be at least 28 x 28 cm. Stick to this if you want something future-proof!

Also choose the correct reflection class: ECE 104 and make sure the stripes point in the correct direction.

A young boy with blonde hair and glasses, wearing a grey long-sleeved shirt and blue denim overalls, is working in a workshop. He is standing next to a large, dark-colored metal bumper that is mounted on a rotating jig. The bumper is tilted upwards, and the boy is using his hands to adjust a component on its side. The background shows a workshop environment with various tools and equipment.

TIP 9

ROTATING JIG

9

For welding and filling the bumper, we use a rotating jig. This allows you to weld from a good position.

We fill the bumper with concrete, punch waste, and magnetite while it's upside down. Thanks to the rotating jig, the bumper can be turned back over for mounting.

CENTER OF GRAVITY

The bumper can be locked in all rotation positions. Ensure it rotates around the center of gravity so you can easily rotate it without force.

A close-up photograph of a person wearing a red jacket, pointing their index finger at a laser-cut steel plate. The plate is dark grey and features several circular holes of varying sizes. The background is blurred, showing industrial equipment.

TIP 10

STEEL CUTTING

10

HOLE DIAMETER

When cutting holes in sheet material, make sure the diameter is at least the same as the thickness of the plate.

If the hole is too small, the laser cutter will not cut it cleanly, which may cause fitting issues.

Mis deel 2 niet!

MORE TIPS?

Part 2

Download available soon!

Tips 11 to 20 will be published on our website. Follow us on Facebook, Instagram, or TikTok to be the first to know!

Part 2 will include tips on bending, folding, top link strength, lighting, storage box, side panel adjustment, and painting.



Why a bumper?

Visibility

Underrun protection

and practical!



Who is TractorBumper?

TractorBumper since 2013.

FARMING ROOTS AND A PASSION FOR ENGINEERING.

I'm Fons, son of a dairy farmer  and I spent my youth working weekends at a contractor. With a passion for engineering, I spent six years as a design engineer developing drum mowers at KUHN. Since 2013, I've been fully focused on the TractorBumper project.



I'm fully convinced that better lighting prevents dangerous situations, and that shielding the wheels reduces the consequences in case of an accident.

My passion is perfecting every last millimeter. A bumper should be practical both in the field and on the road, while also being functional (as weight or storage) and a stylish addition to your tractor.

Discover all models

Prefer to buy
a bumper? :)

Go to our webshop!

TRACTOR BUMPER.com