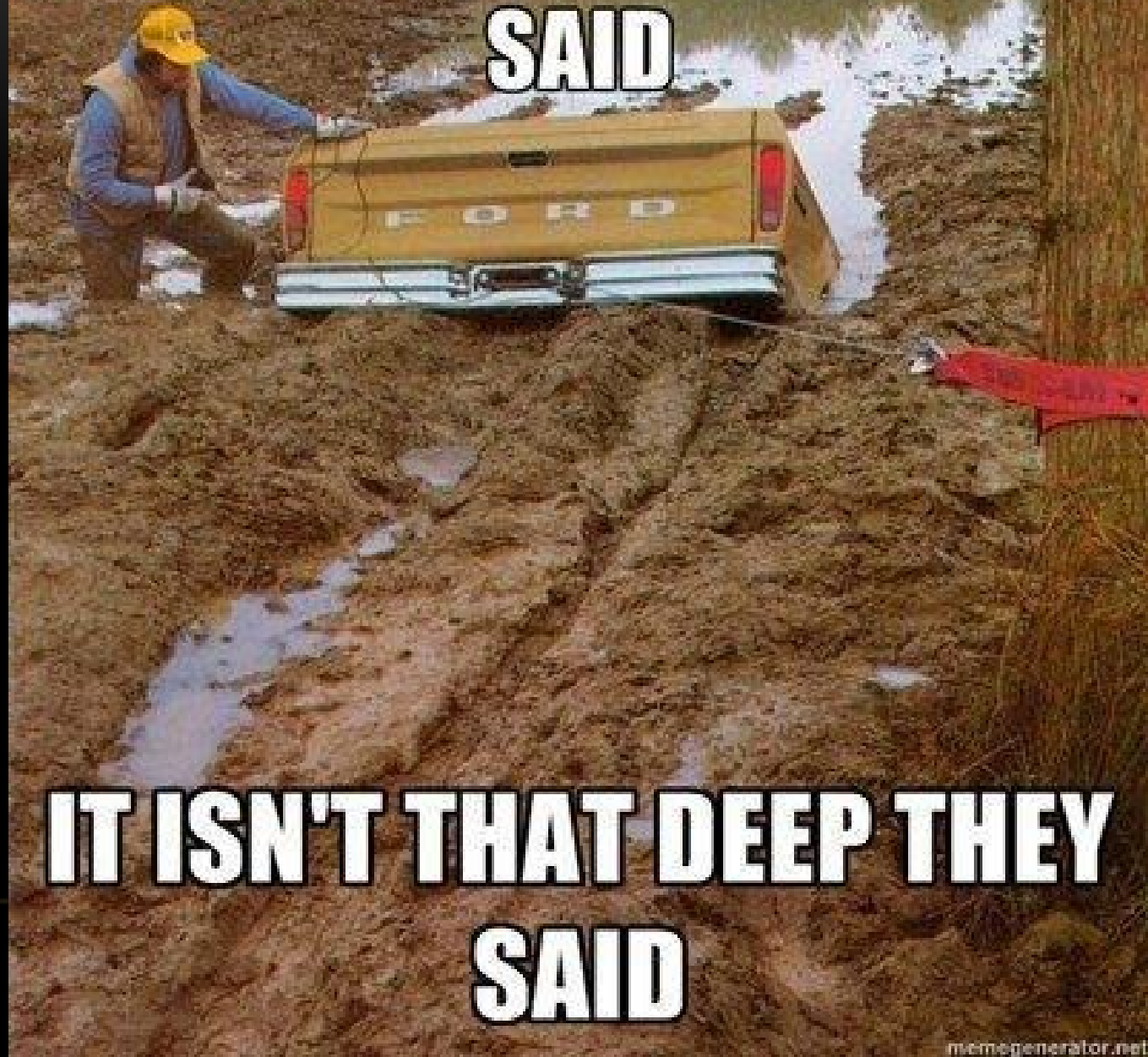




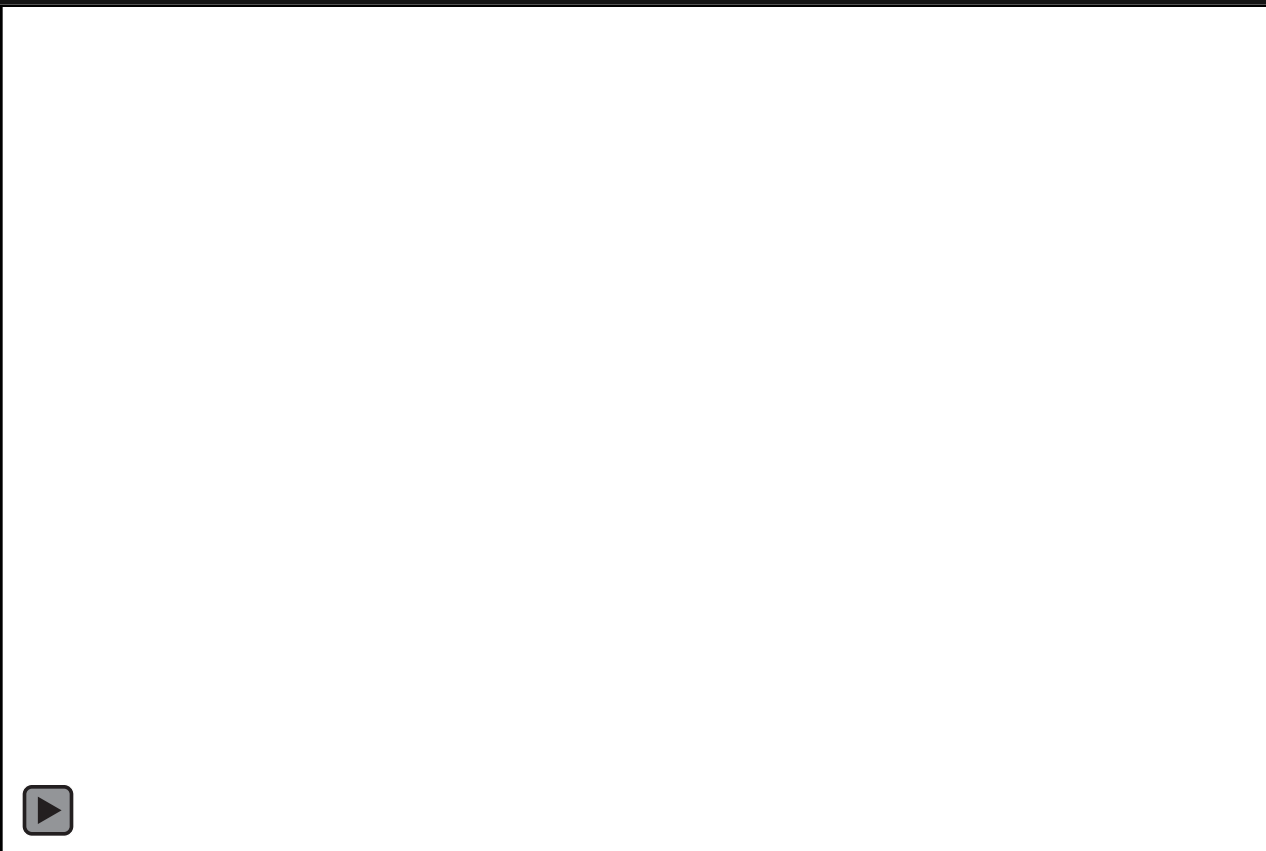
Extracting Stuck Equipment Safely

How to Avoid Expensive and Painful Incidents

**GO THROUGH THE MUD THEY
SAID**



**IT ISN'T THAT DEEP THEY
SAID**









THERE'S MORE TO EQUIPMENT EXTRACTION THAN HOOKING AND PULLING



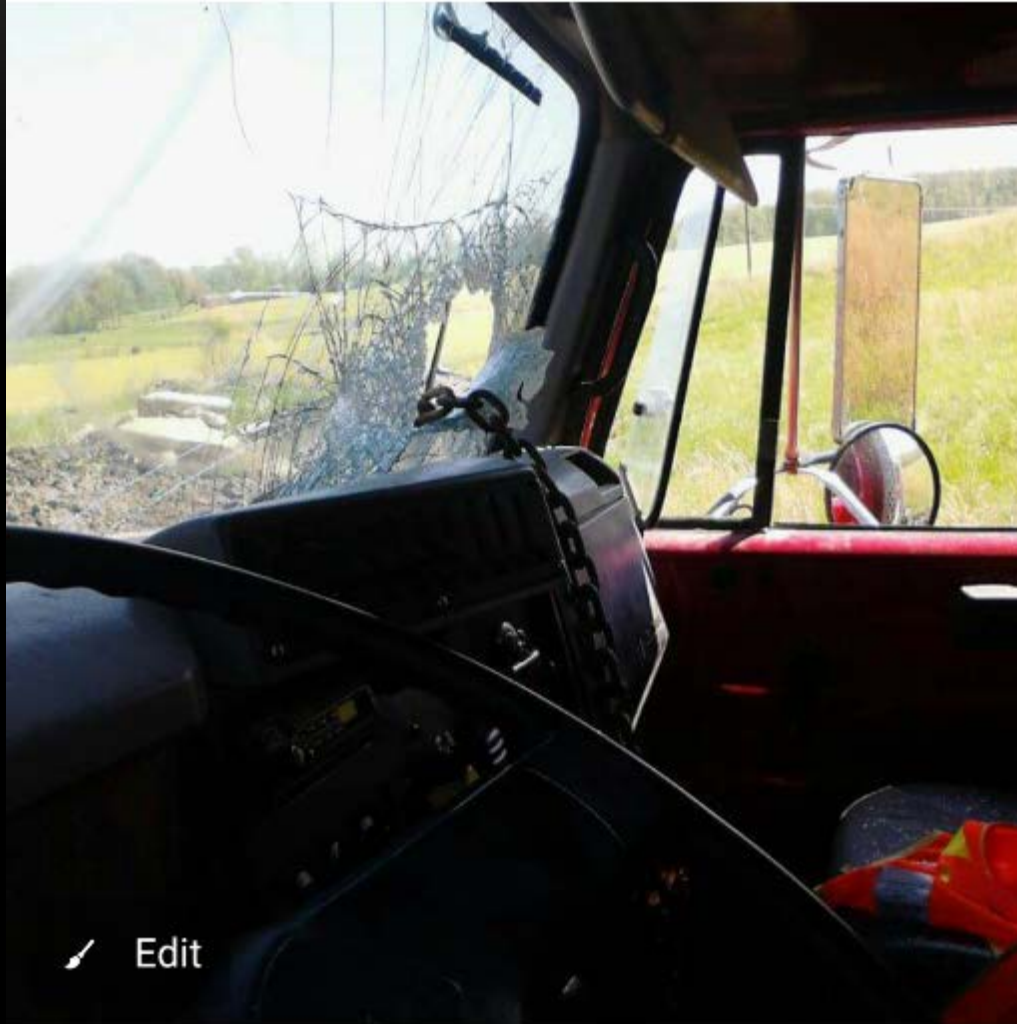


Profile Picture

USE



To: Public



Edit



MAKE TEMPORARY



ADD FRAME

“Four Zones of Extraction”

- **Tow Zone**
- **Stuck Zone**
- **Danger Zone**
- **Clear Zone**



“Tow Zone”

Working Through the Pull



- Is the towing unit capable?

Working Through the Pull



Can I position the towing unit on higher ground?

“Four Zones of Extraction”

- Tow Zone
- Stuck Zone
- Danger Zone
- Clear Zone



Weight of What is Stuck

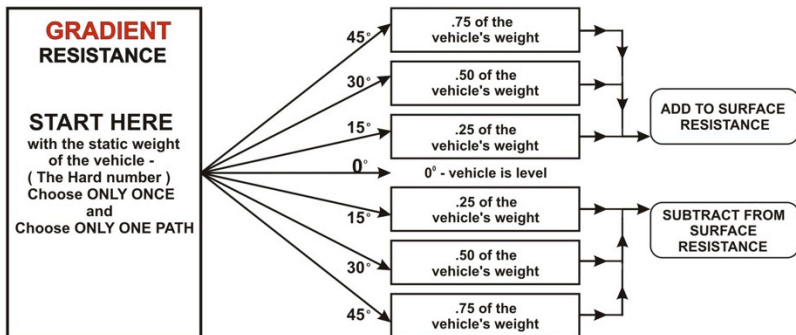
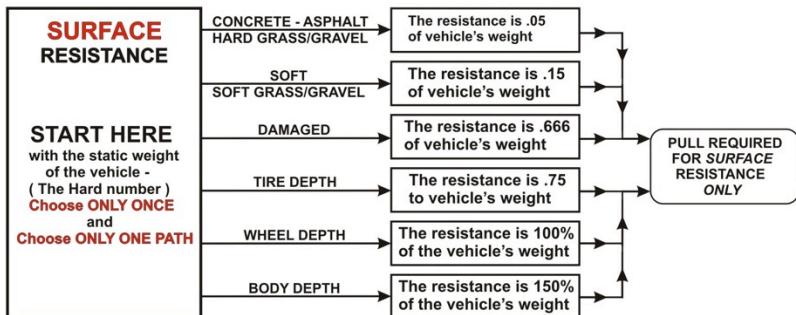
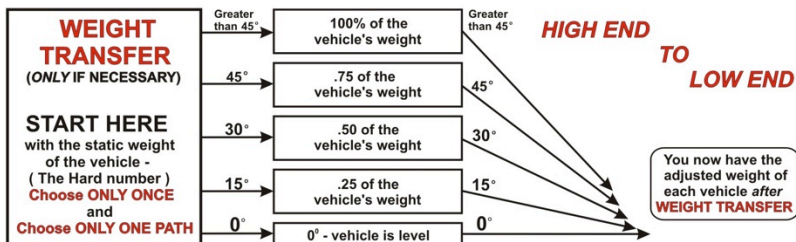


How Deep is It Buried?



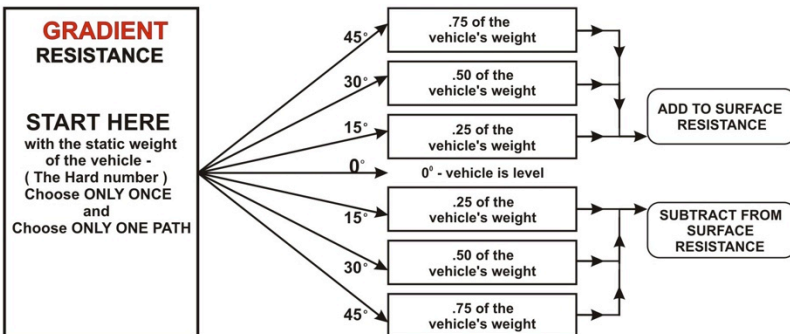
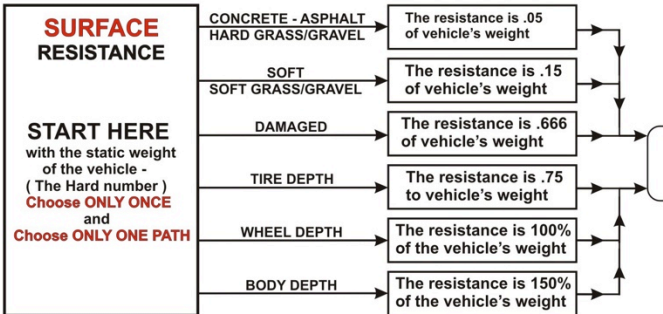
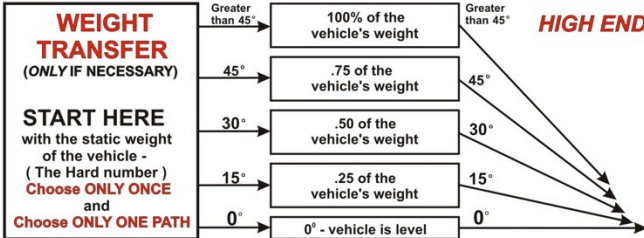






- 1 - When using DAMAGE resistance (.666) *DISREGARD* rolling resistance (.05 or .15).
- 2 - When using MIRE resistance (.75, 100% or 1.5) *DISREGARD* damage resistance (.666).





Knowing these weights help set up how much recovery strength will be needed.

- 1 - When using DAMAGE resistance (.666) *DISREGARD* rolling resistance (.05 or .15).
- 2 - When using MIRE resistance (.75, 100% or 1.5) *DISREGARD* damage resistance (.666).



**Take the
time to dig
out around
the tires to
break the
suction.**

“Four Zones of Extraction”

- **Tow Zone**
- **Stuck Zone**
- **Danger Zone**
- **Clear Zone**

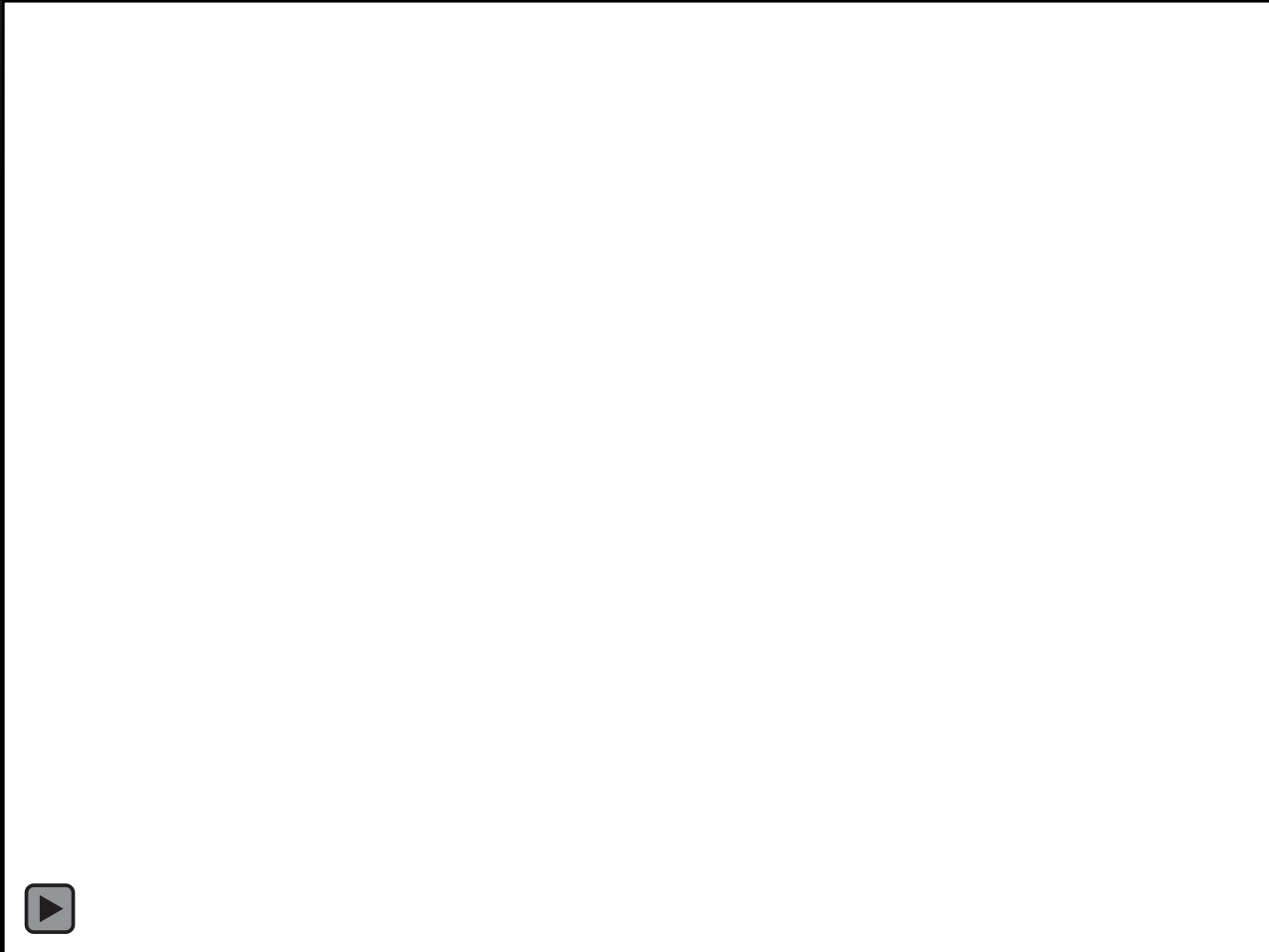
The “Angel of Heaven” Was Listening



Choose the Right Connecting Equipment

- **Chains**
 - **Wire ropes (cables)**
 - **Tow ropes and straps**
 - **Recovery straps and ropes**
 - **Cleavices, hooks, hitches**
-

Chains—Never Jerk on Them



Chains—Never Jerk on Them

Table 3. *Breaking strengths of chains based on grade and diameter.*

Chain Link
Diameter
(inches)

Breaking Strength (pounds)

Grade 30

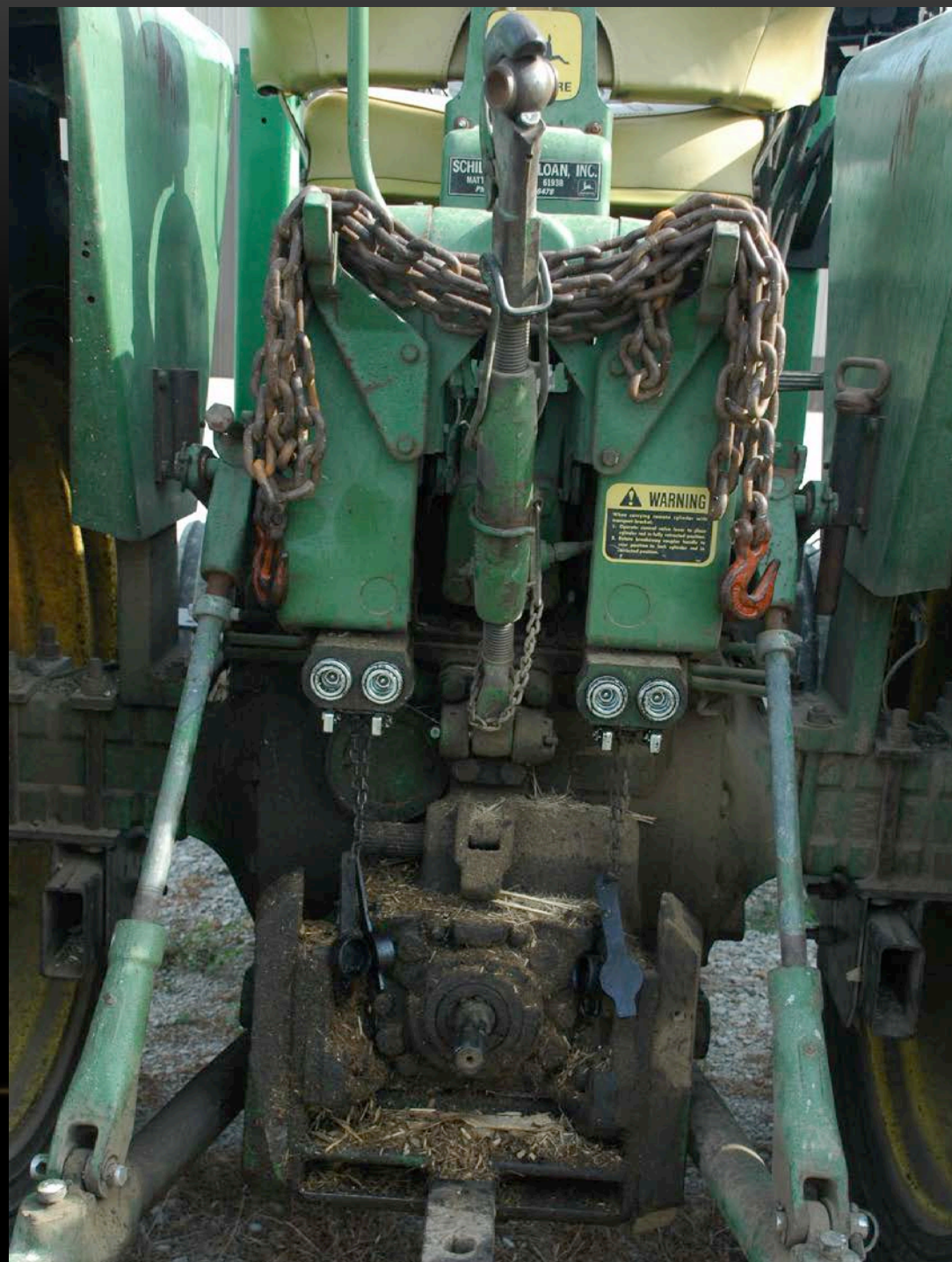
Grade 43

Grade 70

1/8	1,600		
3/16	3,200		
1/4	5,200	7,800	12,600
5/16	7,600	11,700	18,000
3/8	10,600	16,200	26,400
1/2	18,000	27,600	45,200
5/8	27,600	39,000	63,200
3/4	42,400	60,600	98,870

Source: U.S. Department of Transportation











Cables—Never Jerk on Them











**Tow Ropes and
Straps Are Not
The Same Devices**

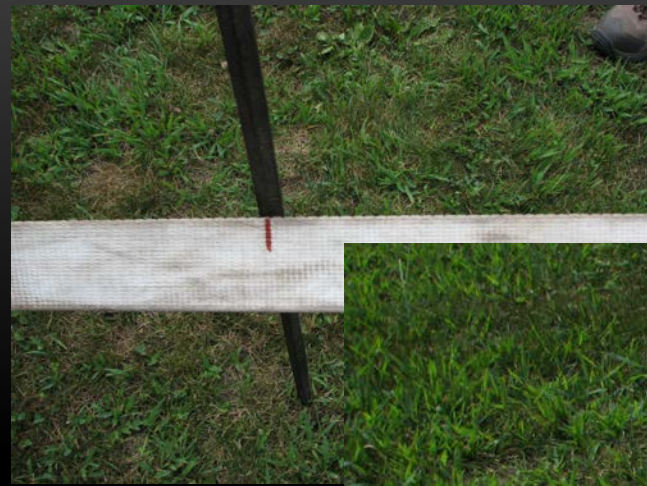
Tow Ropes and Straps—Never Jerk on Them





Recovery Ropes and Straps—Jerk Straps





Sudden stop at end of rope. Are you ready?

WEARINGS AND
PERSONAL INJURY AND CARGO
DAMAGE. SEE PACKAGE FOR
OPERATING INSTRUCTIONS.
■ Do not exceed Maximum Vehicle
Weight shown in chart below.

**Maximum
Vehicle
Weight**

15,000lb.

6804kg

NW002

05/07

- **USE EXTREME CAUTION** - If strap breaks, or becomes disengaged, it will snap wildly. Stand clear!
- Do not use if hardware is defective, webbing is cut, frayed, burned, melted or abraded.
- Attach strap directly to vehicle frame, towing eye or hitch strong enough for extreme use. Never use a sharp hook or sharp edge.

OVER

PAR LONG LONG TERN
4" X 30' D

MAXIMUM PULL
FORCE MAXIMUM

35,000 LB./LIVRE (15.850 KG)

PROTECT WEB FROM
SHARP EDGES.

PROTÉGER LA TOILE DES
BORDS TRANCHANTS

2.5'

WARNING: - NYLON S

...ible metal hardware, hooks, chains, cables, etc
to vehicle. Attach the strap directly to the
...ame-mounted towing hooks, trailer hitch, or frame member.
DO NOT attach directly to the vehicle bumper.
DO NOT use the strap in knots.
DO NOT exceed safe working load of 110,000 lbs.
DO NOT use for towing vehicle or a load
...use only for free stork vehicles.
IMPORTANT: Read complete care and use
instructions furnished with strap before using.

‘Clevices’, Hooks, and Hitches







shackle

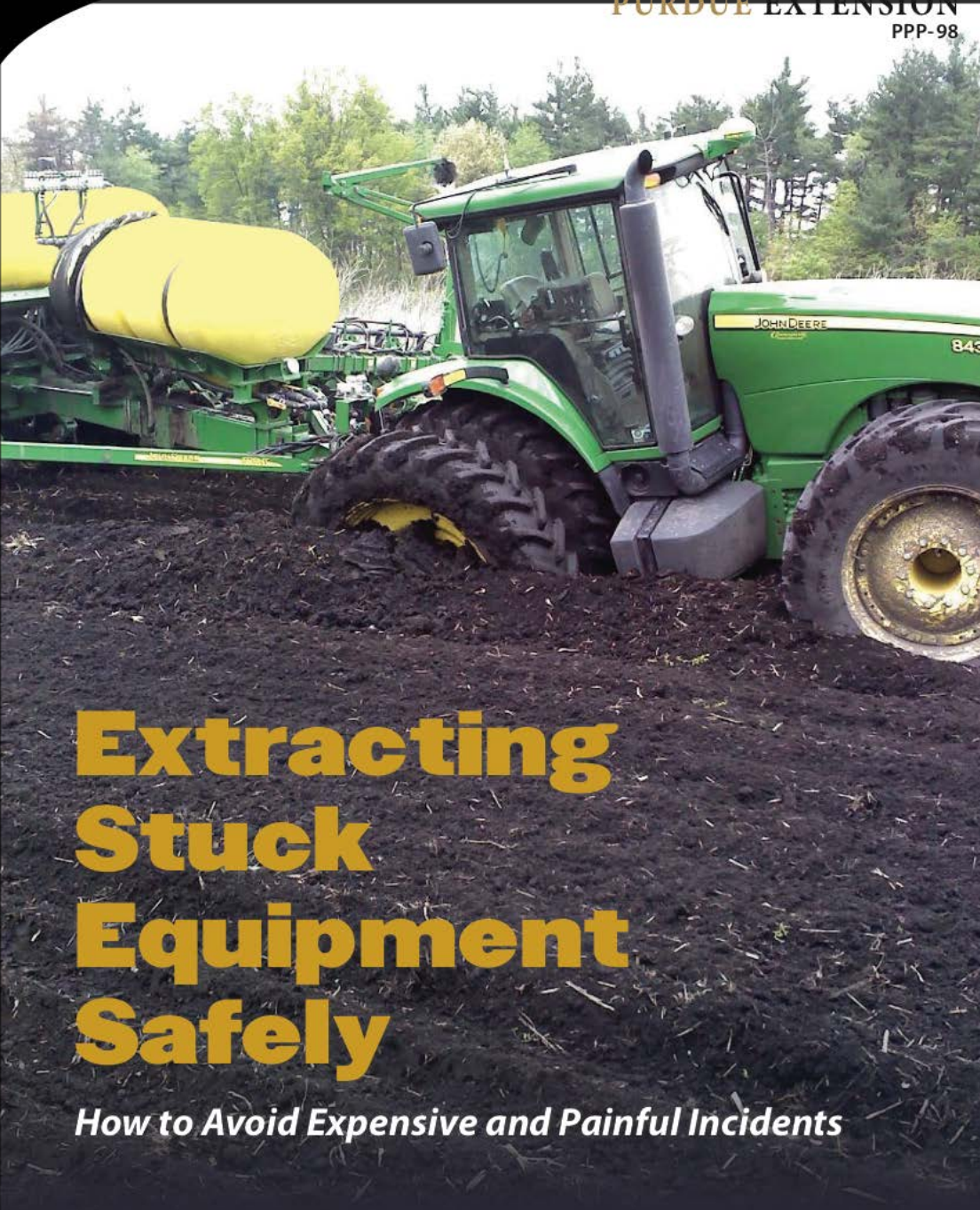


Working Through the Pull

Remain Calm







Extracting Stuck Equipment Safely

How to Avoid Expensive and Painful Incidents

Remember,
your goal is to
get the vehicle
out of whatever
it is stuck in.
But your
overriding goal
should be to do
it safely.