



Extracting Stuck Equipment Safely

How to Avoid Expensive and Painful Incidents













THERE'S MORE TO EQUIPMENT EXTRACTION THAN HOOKING AND PULLING



“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

TURN OFF SOUND



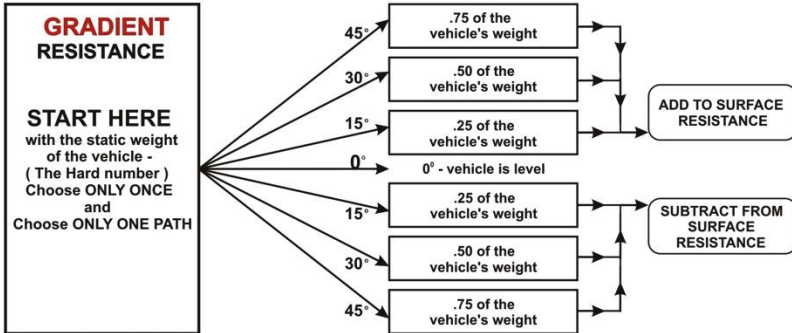
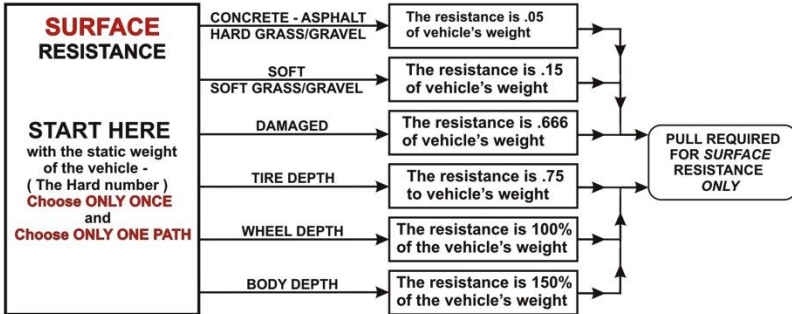
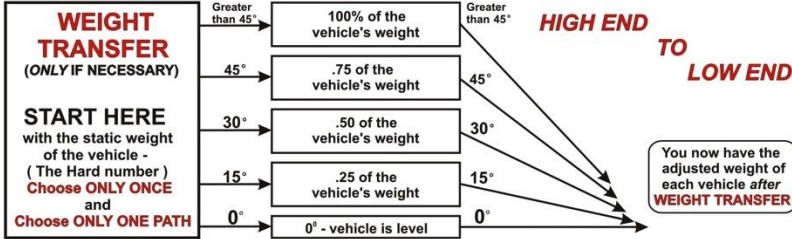
- How deep is it buried







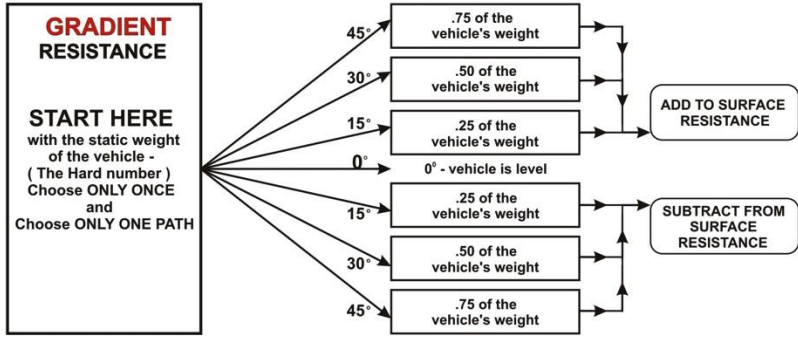
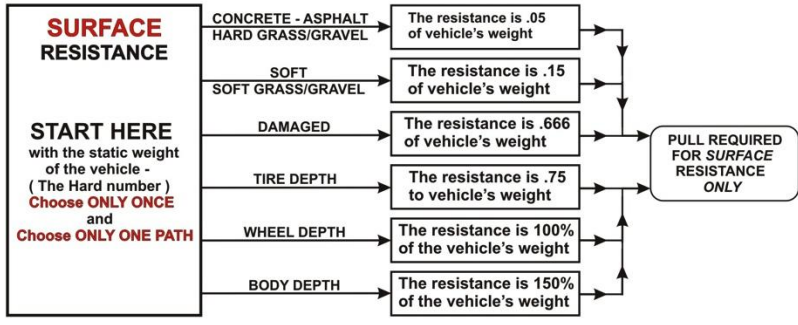
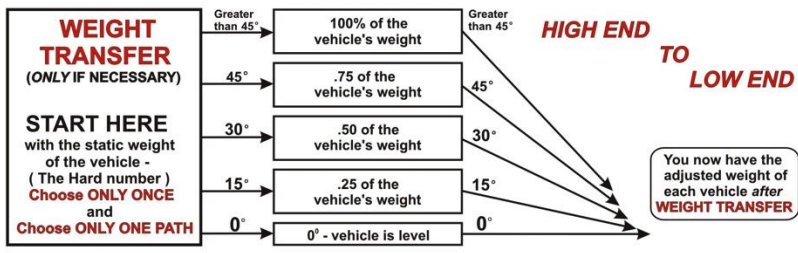
WRECKMASTER'S FLOW CHART



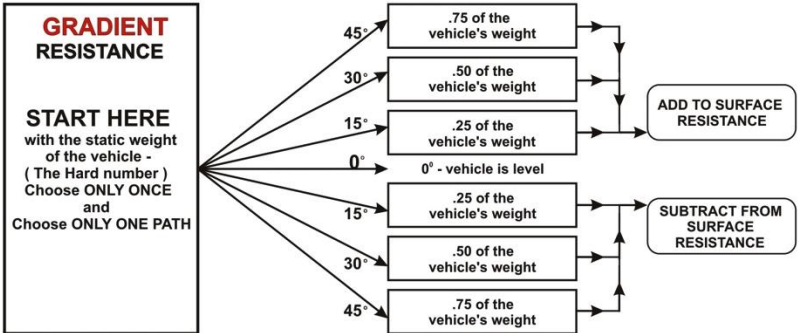
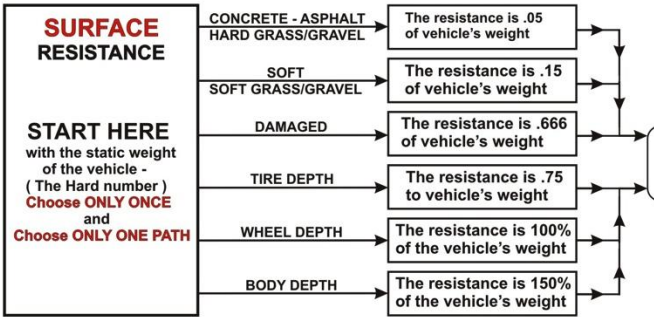
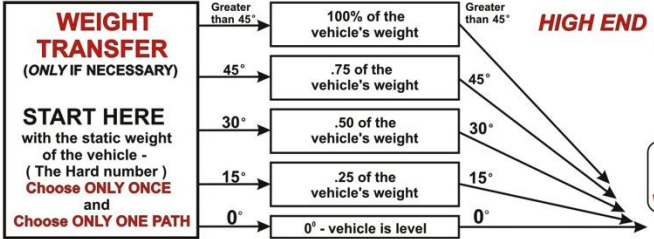
1 - When using DAMAGE resistance (.666) *DISREGARD* rolling resistance (.05 or .15).

2 - When using MIRE resistance (.75, 100% or 1.5) *DISREGARD* damage resistance (.666).

WRECKMASTER'S FLOW CHART



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.**



Sold By
WA JONES



“Four Zones of Extraction”

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

The “Angel of Heaven” Was Listening



Chains—Never Jerk on Them



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



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





SCHIL
MAY 11
PA.

LOAN, INC.
61938

WARNING
When working around cylinders with
power assist:
1. Operate control valve handle in park
position and in fully retracted position.
2. Release auxiliary control handle in
park position in both cylinder and in
retracted position.











Cables—Never Jerk on Them









Tow Ropes and Straps—Never Jerk on Them

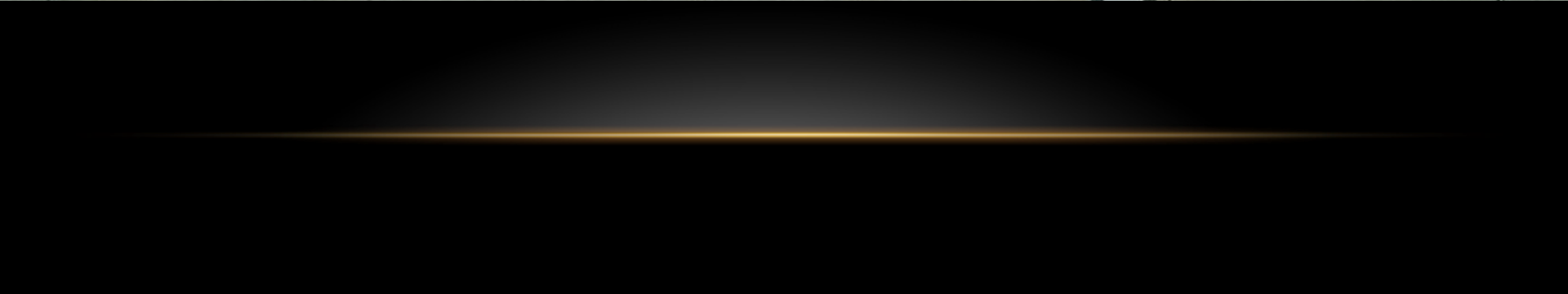




[Redacted sign]

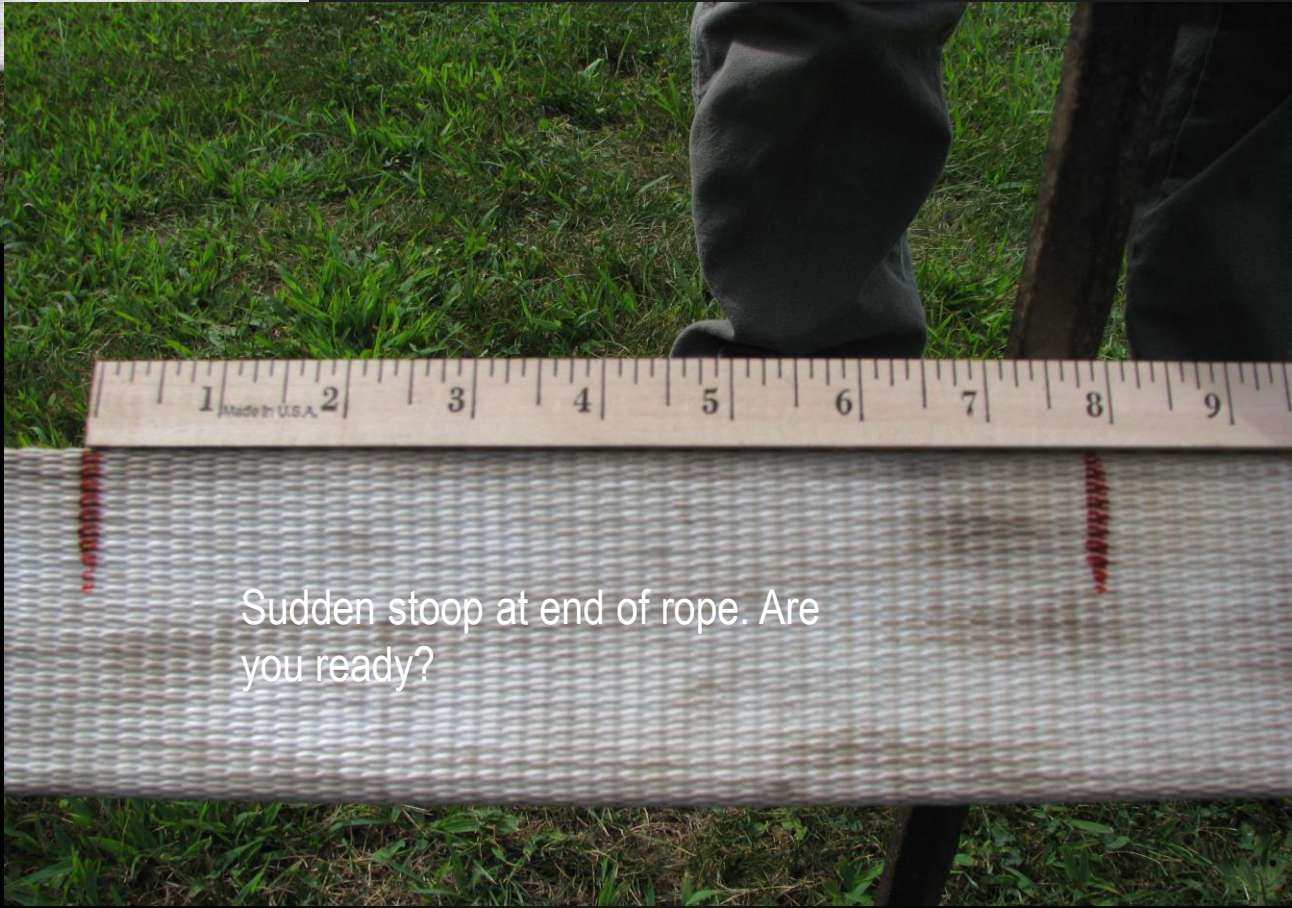
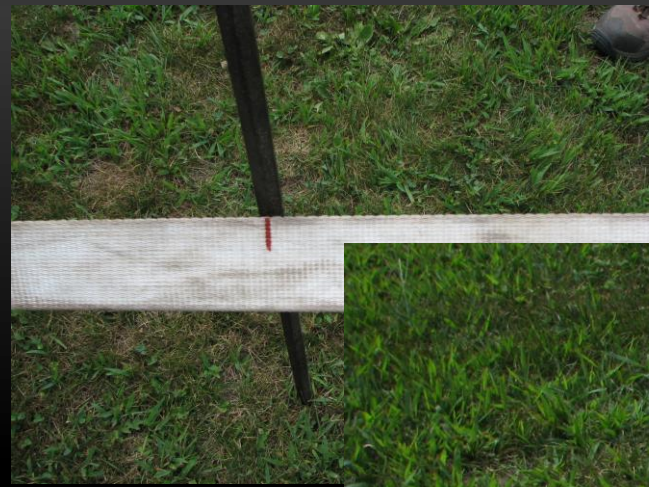
Market
YCU
HAY! GO LEFT! Rutland.com

USE HANDS
WEAR SEATBELT



Recovery Ropes and Straps—Jerk Straps





Sudden stoop at end of rope. Are you ready?

ALL OTHER
WARNING MAY
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 towing forces, never to a hitch.**

sharp
ive

OVER

PAP LONG LONG TENG
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

WARNING: - NYLON STRAP

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

25'

'Clevices', Hooks, and Hitches



Clevis







shackle





Attachment Points







04/24/2013



04/25/2013

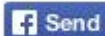


04/25/2013









15 people like this. [Sign Up](#) to see what your friends like.

HILLSDALE TOWNSHIP, Mich. (AP) — Authorities in southern Michigan say a 39-year-old man was killed while trying to use a pickup truck to pull a bulldozer out of a field where it was stuck.

The Hillsdale County sheriff's department says the accident happened Friday afternoon in Hillsdale Township, about 5 miles west of Hillsdale.

The department says in a statement that Adam T. Ladd of Hillsdale Township was operating the bulldozer and got it stuck. It says he called a family member for help in extricating the bulldozer.

The statement says that a strap was hooked up between the truck and bulldozer, but a ball on the back of the truck broke and struck Ladd. The department says he died at the scene.

TURN OFF SOUND



TURN OFF SOUND

LOG AND CHAIN



BREAK

- **Are there any sharp edges touching towing devices?**
- **Did you place something heavy on towing devices?**



- Can you do anything to protect windshields?



“Four Zones of Extraction”

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



Keeping People Out of the Line of Fire

Use Common Sense There's More Than Hooking And Pulling





“Four Zones of Extraction”

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

TURN OFF SOUND





**Have Dedicated Recovery
Equipment That You Can Rely On
To Safely Pull Out Equipment.**









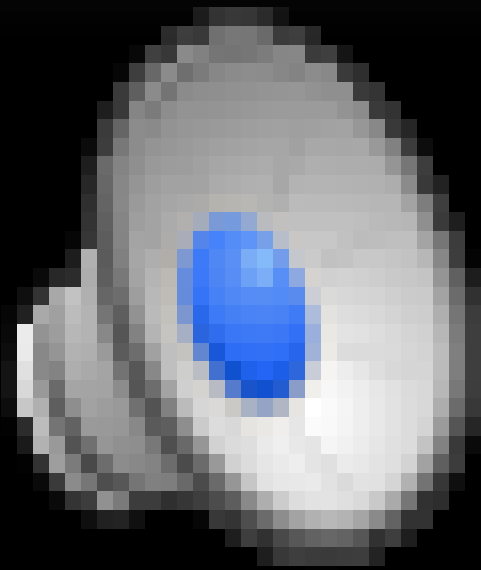


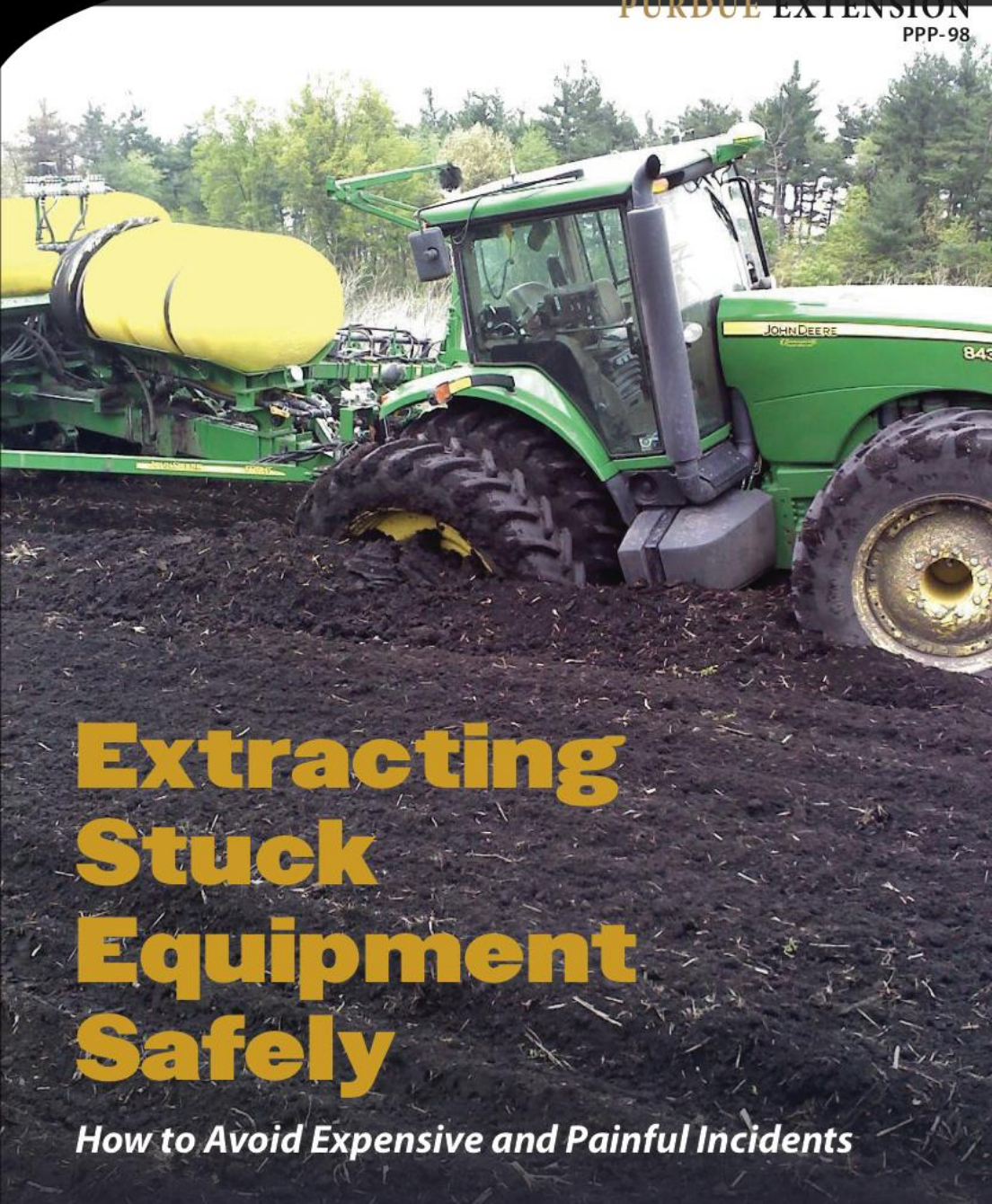
Working Through the Pull

Remain Calm









Extracting Stuck Equipment Safely

How to Avoid Expensive and Painful Incidents

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