



*Tennessee DOT  
Median Cable Barrier*



# INFORMATION FOR FIRST RESPONDER ACTIVITIES

**Don't Cut the Cable**

**Contact TEMA & TDOT**

**Options for Vehicle Removal**

**Safely Reducing Cable Tension**



# Why Use Median Cable Barrier (MCB)

- Prevent median cross-over crashes
- MCB is more forgiving than other barrier types (concrete, steel beam)
- MCB is cheaper to install and repair
- Median cross-over crashes are many times catastrophic



# No MCB

[CH 4] 06-11-2008 20:36:10:156





# MCB at Work

[CH 10] 02-26-2009 16:15:12:109





# MCB at Work



# Email from Robert VanHorn Region 2 HELP Coordinator

...occurred during morning rush hour 9-8-2010 on I-24 at MM 78. The Comcast truck was traveling EB when the driver had a medical emergency, became incapacitated and went into the median. The truck struck the cable rail on the WB side and was stopped. ...The traffic was fast and heavy & had it not been for the cable rail, I feel a tragedy would certainly have occurred, with almost certain loss of life. ...Please note there is no evidence of braking and the rear wheels actually dug into the ground even after the rail stopped the truck. I truly believe that had it not been for the rail, the truck would have entered oncoming WB traffic under power and at speed.



# Trajectory of Vehicle





# Trajectory of Vehicle





# Final Position of Vehicle





# Training for Emergency Response

- To provide emergency responders with best practices in dealing with vehicles engaged with median cable barriers
- Provide safety to public and responders
- To minimize damage of barrier



# Don't Cut the Cable!

Cutting cable is life/death decision

- Cable is difficult to re-splice - sometimes entire section must be replaced
- Cable repair/replacement can take several weeks
- During that time the entire section of barrier between anchors is not functioning



# First Choice

If cable is under tension because vehicle has pushed it out of center line try to tow vehicle back the direction it entered the cable to get slack.



# Second Choice

Loosen turnbuckle





# Turnbuckle Loosening

- Find the closest metal turn-buckle which are located every 1,000 feet
- Loosen the turnbuckles with a wrench to release tension
- Take care not to completely disconnect cable without proper precautions (cable tension could be several thousand psi)



# Third Choice

Remove posts:

- This may be difficult in woven systems or in icy conditions 
- Some crashes may remove enough posts that cable slack is produced



# Post Types

Cable Through Posts





# Post Types

Cable Suspended by Hangers

- One Side of Post



# Post Types

Cable Suspended by Hangers

- Both Sides of Post





# Post Types

Cable Suspended by Studs

- Two Cable Weave





# Fourth Choice

Cutting posts:

- Any suitable cutting tool is fine
- Don't cut posts flush with ground, leave enough post protruding to be removed by maintenance
- If removing posts be aware of vertical, as well as lateral forces



# Fifth Choice

Cut Turnbuckle – They are located about every thousand feet. Required personal protective equipment MUST be used.





## Next to Last Resort

Cut or shear bolted cable connections at anchor.  
(This may render entire section of cable inoperable until reconnected by maintenance.)





# Last Resort

If it is a matter of life and death cable may be cut. This is dangerous and will render the entire section of barrier inoperable until the cable can be replaced - usually several weeks.

Go to an area between two undamaged posts and wrap cable on either side of proposed cut with tape.



# Cable Cutting Demo



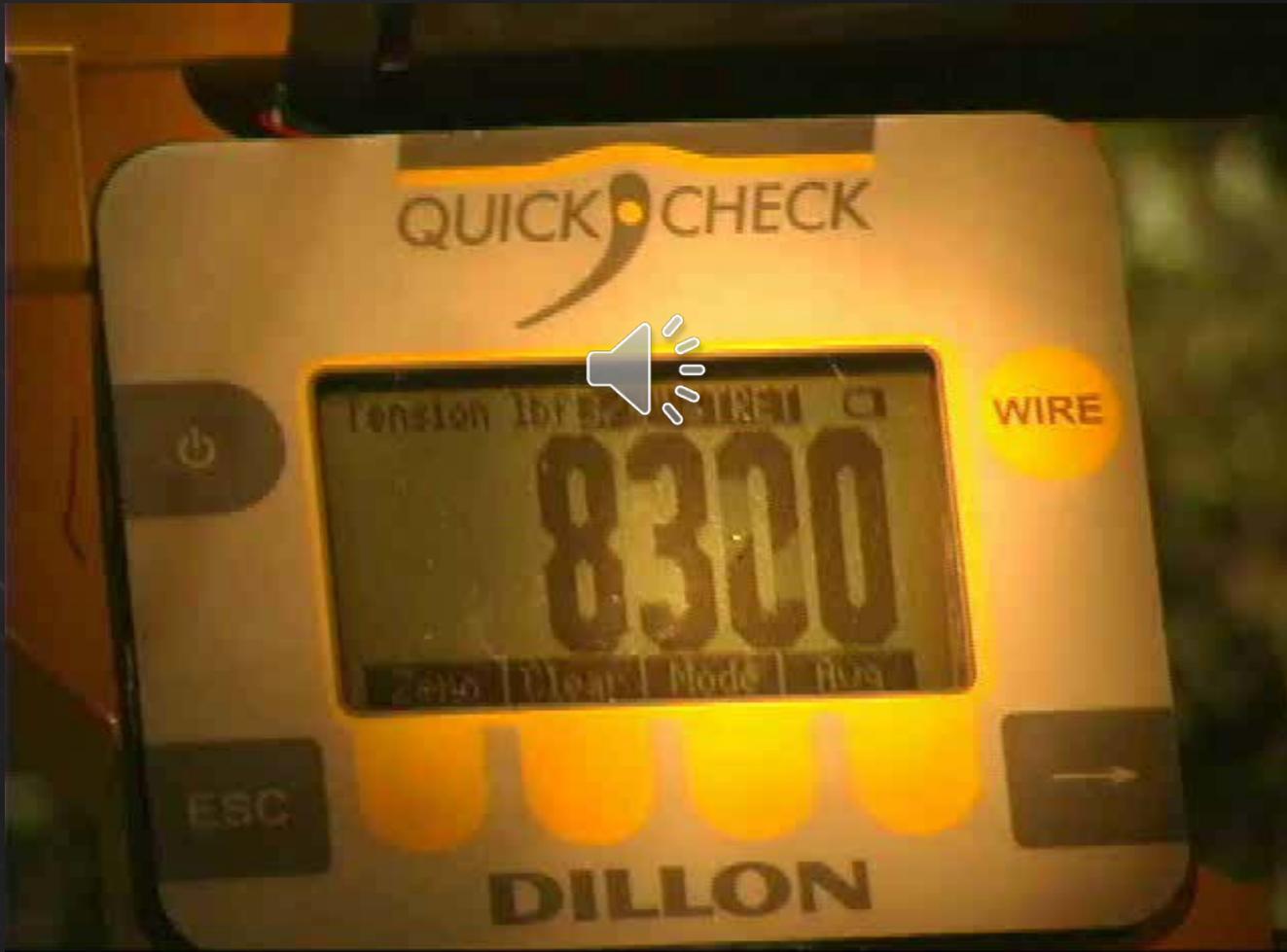


# Cable Cutting Demo





# Cable Cutting Demo





# TDOT Required

## Personal Protection Equipment

- Hardhat
- Face/Eye Protection
- Class 3 Vest
- Welders' Gloves 
- Chainsaw Chaps
- Steel-Toed Boots
- Turnout Gear if Available



# Suggested Tools

- Pipe Wrenches
- Friction Saw
- Hydraulic Cutter
- Duct Tape





# Summary

- Notify TEMA and Local TDOT District
- Try and remove vehicle from direction it entered
- Loosen Turnbuckles 
- Remove Posts
- Cut Posts
- Cut Turnbuckles
- Cut Bolts at Anchor Terminal
- If LIFE or DEATH - Cut Cable



# Thanks!

**Always wear your  
personal protective equipment.**

**Thank you  for your  
attention, participation, and efforts.**

**Thanks to the DOTs of Maine,  
Michigan, Missouri and Minnesota.**



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