DISPATCH, TRANSPORT AND ACCESS

A fire dispatch requires agency ordering, machine preparation and vehicle access. This often requires the use of road maintenance equipment to ensure access and insure escape routes on fires, ex. brushing out roads for increased sight distance, dust abatement, verification of bridge weight limits and traffic controls.

Lowboy transport is critical, and is often a problem for highway lowboys transporting heavy equipment. Tight road alignment in mountainous terrain and poor maintenance of forest road systems present challenges for machine transport. In steep, rough terrain poor road alignment with steep vertical curves or tight horizontal curves (<60' ft radius) may need to be improved to increase lowboy access.

REMOTE DELIVERY OF WATER

Super-skidgines and skidgines extend water availability to remote areas, beyond the reach of fire engines and water tenders. Large skidgines are used to transfer water from roadside tenders to porta-tanks and as trailside water tenders for more mobile smaller skidgines (wheeled skidder, softtrack) and pumpercats. Skidgines also ensure water delivery when aerial methods are grounded due to darkness, smoke or fog.

They are popular with crews for mop-up as the log grapple and blade can help re-position logs and pull apart brush piles while providing water for crews. Water cannon equipped, it can knock down flareups and fire in tree tops. The light duty blade is used as a safety brake and can also dig out hotspots and push over small hazard trees.

Helicopter aerial bucket refill of Super-skidgine tank

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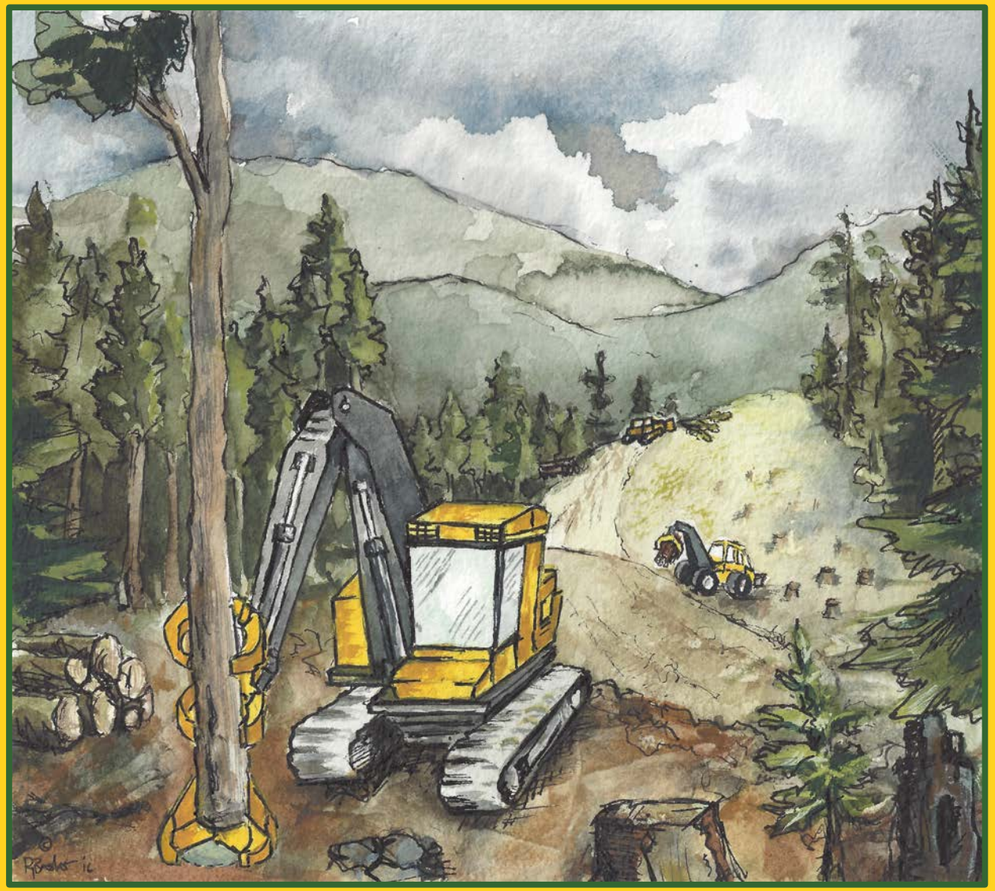
MECHANIZED FIRE AND FUELS OPERATIONS:

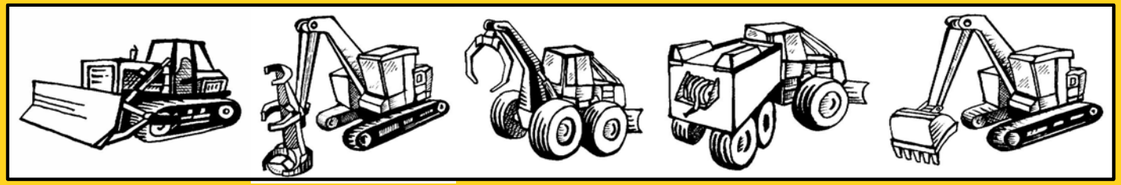
TOOLS AND TACTICS



Modern mechanized forestry equipment expands wildfire suppression operational capabilities for wildfire Incident Management Teams and land managers:

- ✔ Safer, night-time fireline construction, when most fire activity decreases.
- ✔ Faster, safer indirect and contingency fireline construction.
- ✔ More opportunities for direct line on fires too dangerous for hand crews.
- ✔ Safer methods of hazardous tree removal and brush clearing
- ✔ As a "force multiplier", increasing their crew capabilities, efficiency and safety.
- ✔ Contracted equipment is an economic option as call-when-needed resources.

MACHINES: TYPES AND TASKS



FIRE TASK / MACHINE TYPE	Feller Bunchers & Harvesters	Wheeled Skidder	Dozer & Tracked Skidders	SoftTrack Skidgines	Excavators, Shovels and Loaders	Forwarders & SuperSkidgines	Skidgines (Tracked, Wheeled)	Mulchers	Road Grader
Fireline and Fuelbreak Construction	X	X	X	X	X	X	X	X	X
Night Operation	X	X	X	X	X	X	X	X	X
Site Rehab	X	X	X	X	X	X	X	X	X
Vehicle Assistance	X	X	X	X	X	X	X	X	X
Tree Felling or Snagging	X	X	X	X	X		X	X	
Tree or Log Skidding		X	X	X	X	X	X		
Tree or Log Decking		X	X	X	X	X	X		
Tree or Log Bunching	X	X	X		X				
Brush Piling		X	X		X		X		
Brush Trampling			X		X		X		
Brush Cutting	X				X			X	
Pruning	X				X			X	
Water Hauling				X		X	X		
Water Application				X		X	X		
Road Work			X		X				X

Information Source:
http://www.wildfirelessons.net/HigherLogic/System/DownloadDocumentFile.ashx?DocumentFileKey=598c5da9-5543-477e-8ec6-017160f3edcb

Many individuals working in fire and fuels management are unfamiliar with the broad range of forestry equipment. This is particularly true when incident managers are brought in from out-of-state or region. Likewise, many agency land managers are not familiar with machine limitations, capabilities, costs, and site impacts when heavy equipment is used to manage fire.

Fire and fuels personnel benefit by learning more about these machines and the values of a mechanized task force to order and apply the right machinery.

Fire personnel need better access to equipment training and knowledge to correctly match their task objectives with the machine capabilities and limitations. The goal is to assign the right tool for the right task.

SAFETY

Hazard trees exist before, during, and especially after a fire. It is a dynamic condition that changes the longer the fire burns. A special concern on wildland fires is the increased presence of dead and burned-out trees that result in falling snags. These overhead hazards are of critical concern for personnel out of machine cabs and under poor visibility conditions.

The three primary hazards for in-woods equipment operators are addressed by features of forestry equipment cab structure: machine rollover, falling objects and cab penetration by limbs or trees. In response to these hazards forest equipment manufacturers design and build forest machine cabs which meet OSHA specifications for: Operator Protection System (OPS), Falling Object Protection System (FOPS) and Rollover Operator Protection System (ROPS).

Key safety factors for using machinery in the wildland fire environment is to stay within the safe operating slope limits and site conditions for the machine design and the operator's experience.

Machine and ground factors need to be understood to use the right equipment in the right places: Tracks or Wheels (chains, track bands); Traction (slope limits, soil conditions); Float (soil strength, machine ground pressure).

Determining operational slope limits depends on what the machines are doing, machine design (woods safety package, leveling cab, longer tracks with deeper grousers), as well as site conditions (amount of rock, jack-strawed deadfall, bogs).

Frame and Tracks - Dozers and strip mulchers are designed with a heavy rigid frame and tracks, making a solid unit that can turn tightly using differential steering. Other track configurations, softtrack and track bands on bogey wheels increases machine traction.