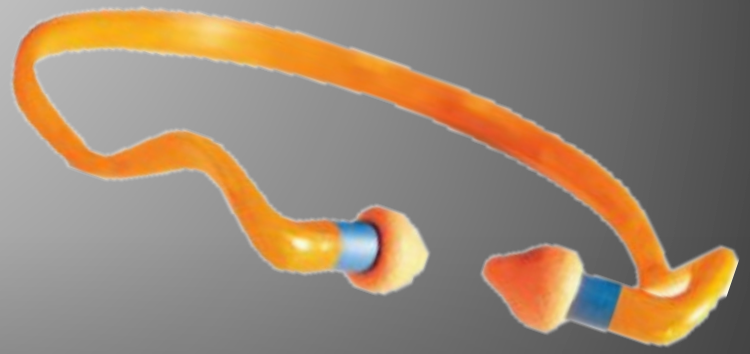
TOOLS OF THE TRADE

POWER LINE CLEARANCE TREE TRIMMER

PERSONAL PROTECTIVE EQUIPMENT
PPE

THE BASICS
EYE & EAR PROTECTION



THERE ARE MANY EYE & EAR PROTECTION OPTIONS DEPENDING ON USER PREFERANCE

THE BASICS
FOOTWEAR:

- PROPER FOOT WEAR IS A MUST
- OPTIONS ABOVE INCLUDE ANKLE AND FOOT SUPPORT, CLIMBING HEEL FOR GAFFS, AND TRACTION FOR UN-EVEN TERRAIN

THE BASICS
HI VIZ OPTIONS

- HI VIZ LONG SLEEVE SHIRT
- CLASS II

- HI VIZ VEST
- CLASS III

- HI VIZ RAIN GEAR

THE BASICS
HAND PROTECTION

- GLOVES OFFER BETTER GRIP WHEN DEALING WITH ROPES AND EQUIPMENT. AS WELL AS PROTECTION FROM FRICTION BURNS, INSECTS, THORNS, AND OTHER HAZARDS

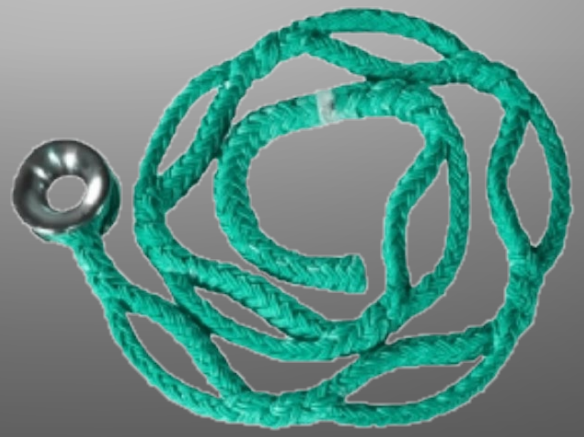
THE BASICS
CHAINSAW PROTECTION

- CHAINSAW CHAPS ARE A GREAT OPTION FOR ON/OFF SAW WORK WHILE CHAINSAW PANTS PROVIDE CONTINUES PROTECTION ON THE GROUND AND WHILE CLIMBING

THE BASICS
HEADWEAR

SOME HEADWEAR OFFERS BASIC HEAD PROTECTION WITH THE OPTION OF EAR MUFFS. MORE ADVANCED OPTIONS INCORPORATE HEAD, EYE, AND EAR PROTECTION INTO ONE UNIT

ROPE
CLIMBING LINES & RIGGING LINES



ROPE
CLMBING LINES

- CLIMBING LINES ARE TYPICALLY 16 OR 24 STRAND BRAIDED ROPES, RANGING FROM 11.5mm-12.7mm
- BRIGHT COLORS HELP DISTINGUISH FROM OTHER ROPES AND VEGETATION

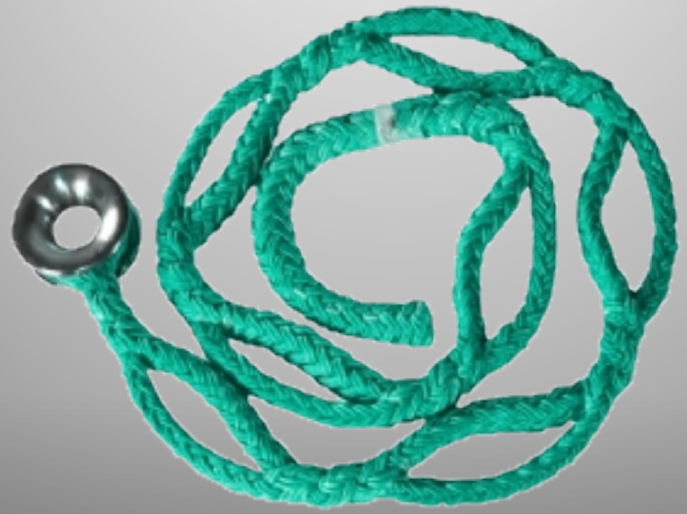
- TIGHT EYE SPLICED ENDS

ROPE
RIGGING LINES

- STABLE BRAID RIGGING LINES OFFER EXCELLENT BREAKING STRENGTHS AND CAN BE USED IN CONJUNCTION WITH MOST HARDWARE

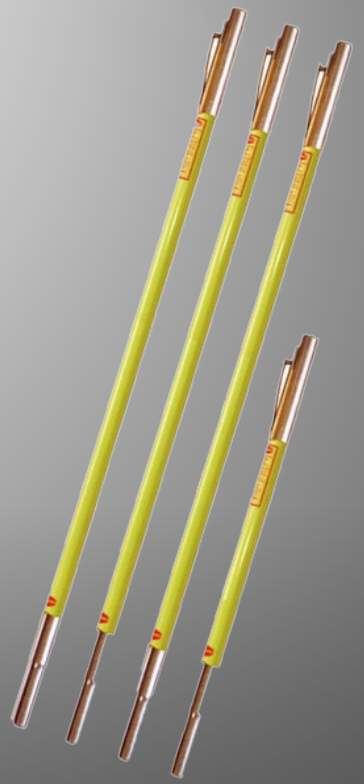
- 3 STRAND ROPES ARE COMMON FOR MECHNICAL HARDWARE APPLICATIONS AND SIMPLE RIGGING / PULLING TASKS

ROPE
HOLLOW BRAID



HOLLOW BRAID ROPES ARE MOST COMMONLY USED IN SHORT SECTIONS FOR HEAVY RIGGING SCENARIOS. OFFERING VERY HIGH WORKING LOAD LIMITS, AND THE EASE OF SPLICING ALLOWS FOR UNIQUE RIGGING HARDWARE TO BE INCORPORATED

HANDTOOLS



HAND TOOLS
CLEANUP

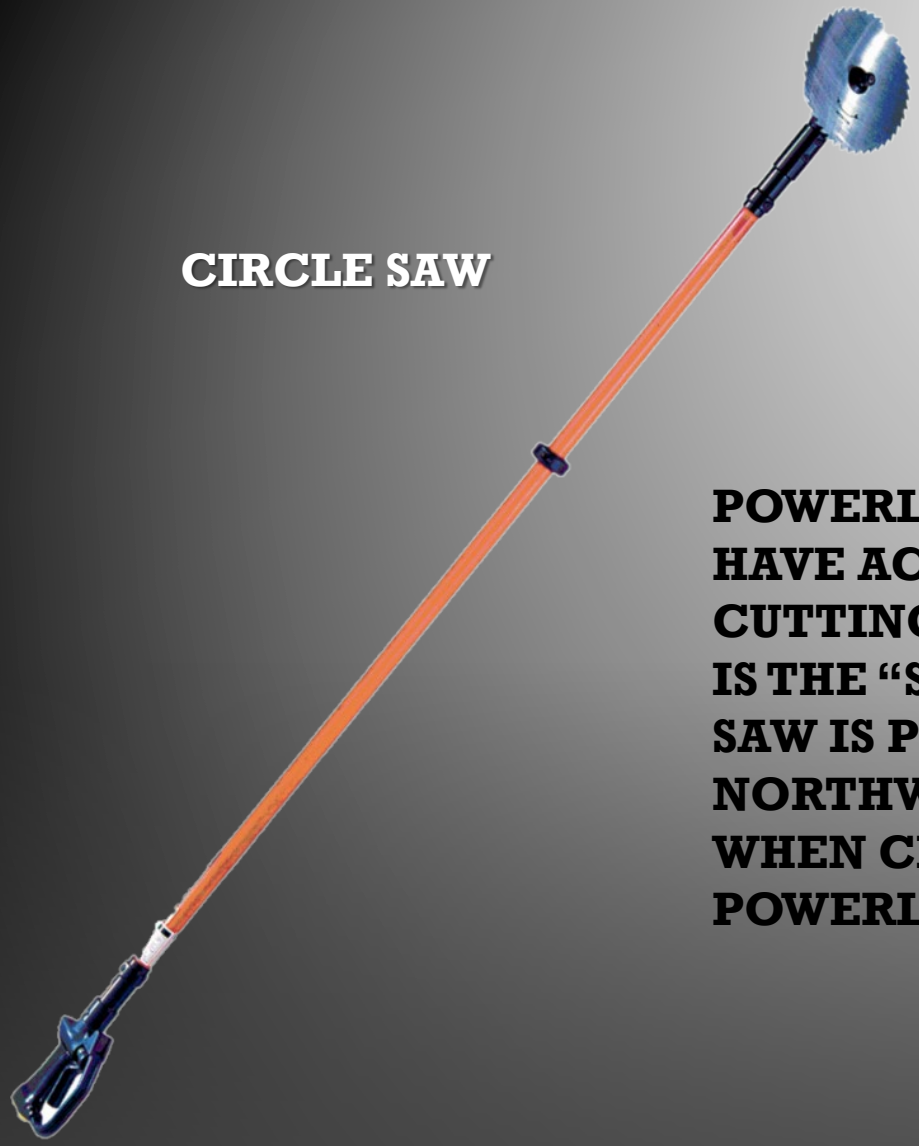
- COMMON HANDTOOLS FOR CLEANUP: WIRE RAKES USED FOR GRASS, ROCK RAKES FOR HEAVIER DEBRI, PITCH FORKS FOR BRANCHES OR LIFTING IMPRESSIONS IN GRASS, SHOVELS FOR VARIOUS USES AND A QUALITY GARBAGE CAN FOR TRANSPORTING SAWDUST AND SMALLER DEBRI
- LEAF BLOWERS ARE GREAT FOR SAWDUST, LEAFS, AND EVEN CLEANING OUT EQUIPMENT

HANDTOOLS
PRUNING

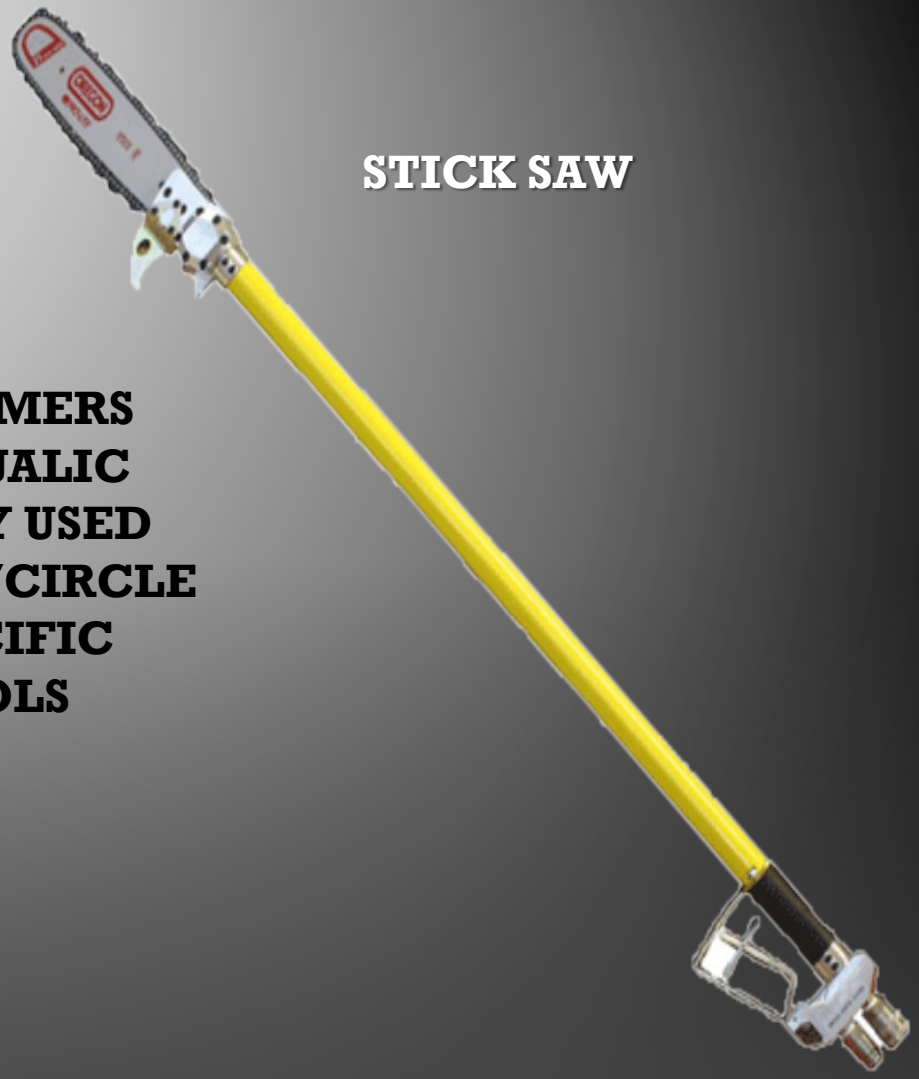
- HAND SAWS AND PRUNERS ARE IMPORTANT PARTS TO EVERY TRAINED ARBORISTS KIT. EACH HAVE THEIR UNIQUE APPLICATIONS FOR TREE WORK, AND CAN BE ADAPTED INTO A JAMESON POLE SYSTEM GIVING EXTENDED REACH FROM THE GROUND OR ALOFT

HANDTOOLS
HYDRUALIC

CIRCLE SAW



STICK SAW



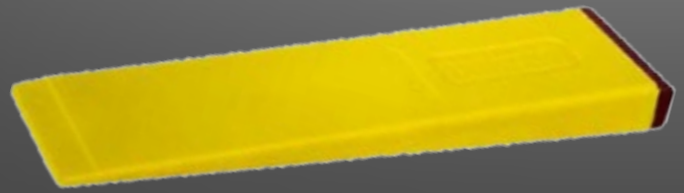
POWERLINE CLEARNCE TREE TRIMMERS HAVE ACCESS TO INSULATED HYDRUALIC CUTTING TOOLS. THE MOST WIDELY USED IS THE "STICK SAW" . THE "ACKLY"/CIRCLE SAW IS PRIMARILY USED IN THE PACIFIC NORTHWEST. BOTH ARE GREAT TOOLS WHEN CLEARING LIMBS FROM POWERLINES.

HAND TOOLS
GAS AND FIRE SAFTEY

- DOT APPROVED GAS CANS COME IN MANY FORMS, AND PLAY A ROLE IN FIRE SAFTEY.
- FIRE EXTINGUISHERS ARE IMPORTANT TOOLS, RESERVED FOR EQUIPMENT AND FOREST FIRES. THEY COME IN DOT APPROVED CONTAINERS AND PERSONAL UNITS.

HAND TOOLS
FELLING AND LOG HANDLING

- **WEDGES, AXES, CANT HOOKS, AND FELLING LEVERS HAVE NEVER ENDING BENEFITS TO THE ARBORIST TRADE. USES CAN RANGE FROM SIMPLE FELLING AIDS TO BUCKING LOGS AND FIREWOOD.**

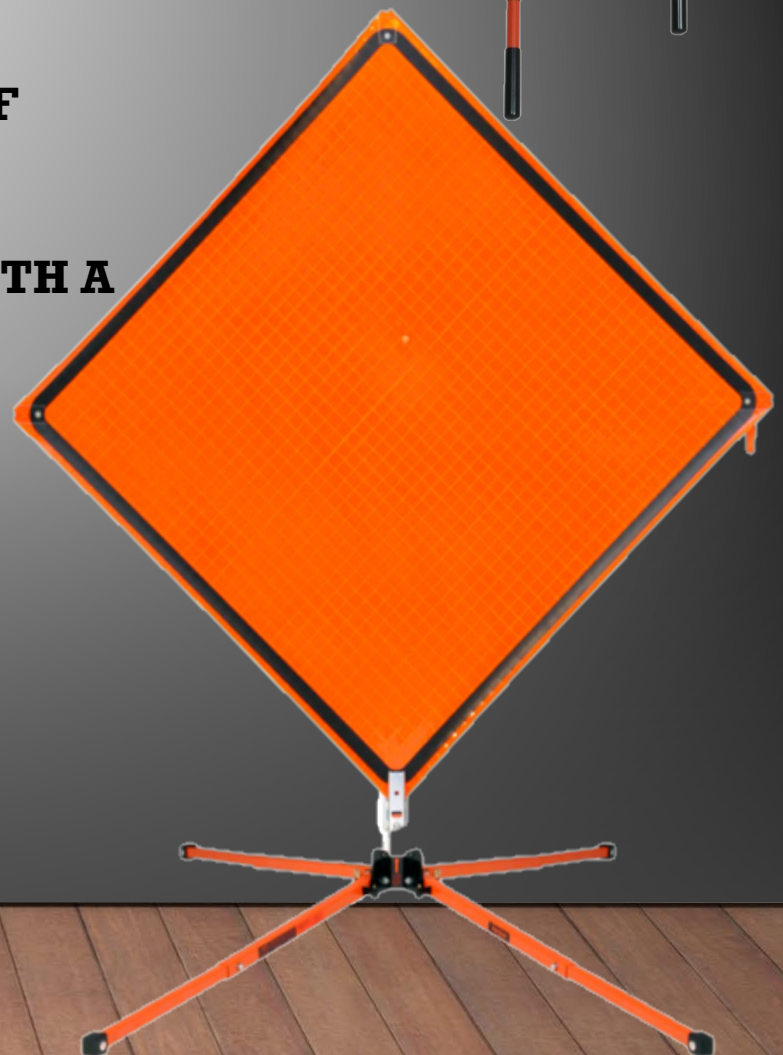


JOBSITE SETUP

- **TRAFFIC, WORKER AND PEDESTRIAN SAFTEY ARE ALL APART OF OUR TRADE. HAVING A QUALITY JOB SITE SETUP WITH PROPER CONE AND SIGN ARRANGMENT IS CRUCIAL.**

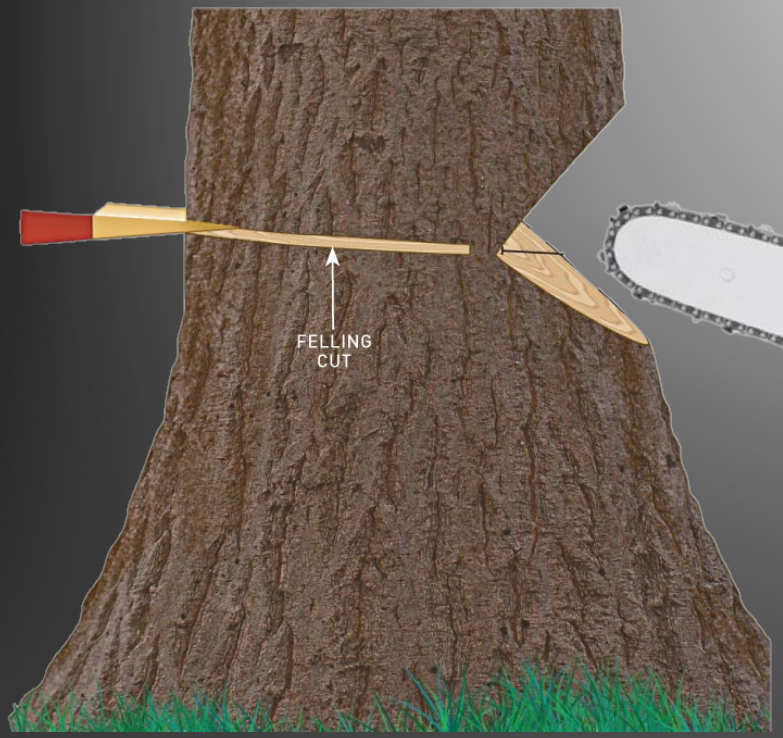
- **SOME JOBSITES MAY EVEN REQUIRE THE USE OF BARRELS OR CANDLE STICKS**

- **USUALLY MADE IN CONSTRUCTION ORANGE WITH A PORTION THAT IS RETRO REFLECTIVE**



CHAINSAWS

Husqvarna
Husqvarna
T540 XP


FELLING
CUT

STIHL
STIHL
MS 461

STIHL
3/8

CHAINSAWS
TOP HANDLE

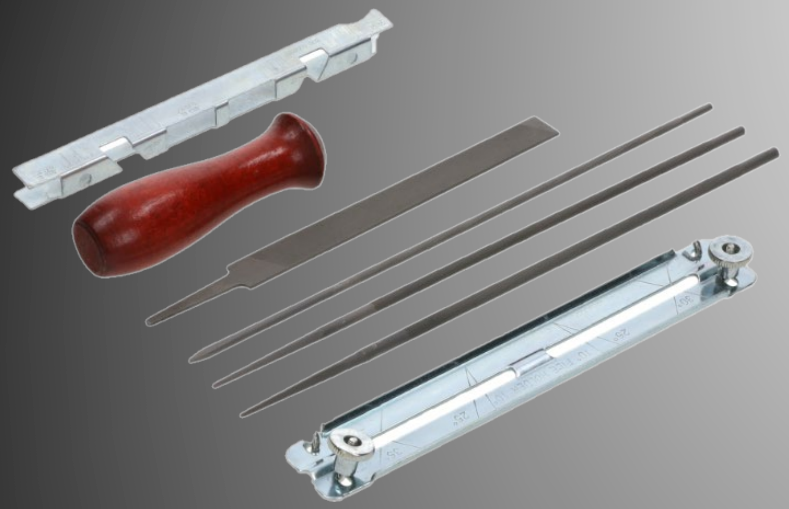
- **TOP HANDLE CHAINSAWS OFFER MOBILITY AND POWER WHEN A HANDSAW JUST DOESN'T CUT IT. DEVELOPED TO USE ALOFT WHILE CLIMBING, OR IN THE BUCKET.**

CHAINSAWS
FELLING / BUCKING SAWS

- **CHAINSAWS MOST COMMONLY USED FOR TREE FELLING AND BUCKING OPERATIONS RANGE IN SIZE FROM AN 18” BAR LENGTH ALL THE WAY TO A 36” BAR LENGTH. LONGER BAR SIZES DO EXIST BUT IN MOST CASES ARE NOT PRACTICAL TO OUR INDUSTRY.**

- **BAR WRENCH**

CHAINSAWS
FILING & CHAINS



- CHAINS COME IN VARIOUS SIZES AND CUTTING TYPES.

SOME OPTIONS INCLUDE: SKIP TOOTH & ANTI KICK-BACK

- BASIC PARTS ARE THE RAKER, CUTTER AND DRIVER
- ROUND FILES ARE MADE FOR THE SPECIFIC CUTTER SIZE, FLAT FILES ARE USED FOR THE DEPTH GAUGE.
- MANY TOOLS AND GUIDES HAVE BEEN DESIGNED TO HELP THE USER SHARPEN WITH ACCURACY.

CHAINSAWS
MIX

- **CHAINSAWS & BLOWERS USE TWO-STROKE OIL MIX.**
- **50:1 IS THE RECOMMENDED RATIO BY MOST MANUFACTURER'S**
- **BAR OIL ALLOWS THE CHAIN TO GLIDE IN THE BAR GROOVE**

BUCKET EQUIPMENT

- WHEN ALOFT IN AN AERIAL LIFT DEVICE, YOU MUST BE SECURED WITH A FULL BODY HARNESS

- USING A BUCKET SCABBARD KEEPS THE SAW STOWED SAFLEY WHEN NOT IN USE.
- PREVENTS CUTS TO USERS LEGS AND BOOTS WHEN IN THE BUCKET WITH A CHAINSAW

CLIMBING GEAR

CLIMBING GEAR
CARABINERS

AUTO-LOCKING
LIFE SUPPORT

NON-LOCKING
LIGHT
RIGGING

NON-LOCKING
ACCESSORY

AUTO-
LOCKING
HEAVY
RIGGING

NON-
LOCKING
ACCESSORY
LIGHT DUTY

CLIMBING GEAR
LIFE SUPPORT

- ANSI RATED GATE CARABINERS

CARABINERS & ROPE SNAPS USED FOR LIFE SUPPORT MUST:

- HAVE AUTO DOUBLE-LOCKING GATES
- GATES MUST WITHSTAND 3,600 LBS OF FORCE WHEN CLOSED
- MUST SUPPORT 5,000 LBS ALONG ITS MAJOR AXIS

- ANSI RATED GATE ROPE SNAPS

CLIMBING GEAR
DESCENDERS

- DESCENDERS RANGE FROM SIMPLE FIGURE 8'S TO RESCUE 8'S ALL THE WAY TO ADVANCED BELAYING DEVICES SUCH AS THE PETZL I'D

CLIMBING GEAR
POSITIONING LANYARDS

- FLIPE LINES & LANYARDS ALLOW A CLIMBER TO ASCEND A SPAR OR EVEN COMPLETE A DIFFICULT LIMB WALK WITH EASE.

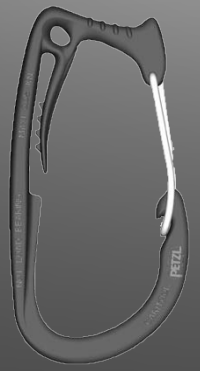
- THEY AID IN BALANCING, OR SIMPLY KEEPING THE CLIMBER IN PLACE WHEN MAKING A CUT.

- COMMONLY A SYNTHETIC ROPE WITH EITHER A HIP PRUSIK OR DISTEL HITCH & PULLEY USED FOR ADJUSTMENT.

CLIMBING GEAR
SADDLES

- **EACH SADDLE CAN END UP AS UNIQUE AS THE CLIMBER WEARING IT ONCE SET UP. FROM CARITOOLS TO TRANSPORTERS AND HITCH PULLEYS TO SWIVELS.**

- **MOST SADDLES CAN BE CONFIGURED FOR THE CLIMBERS SYSTEM AND STYLE.**



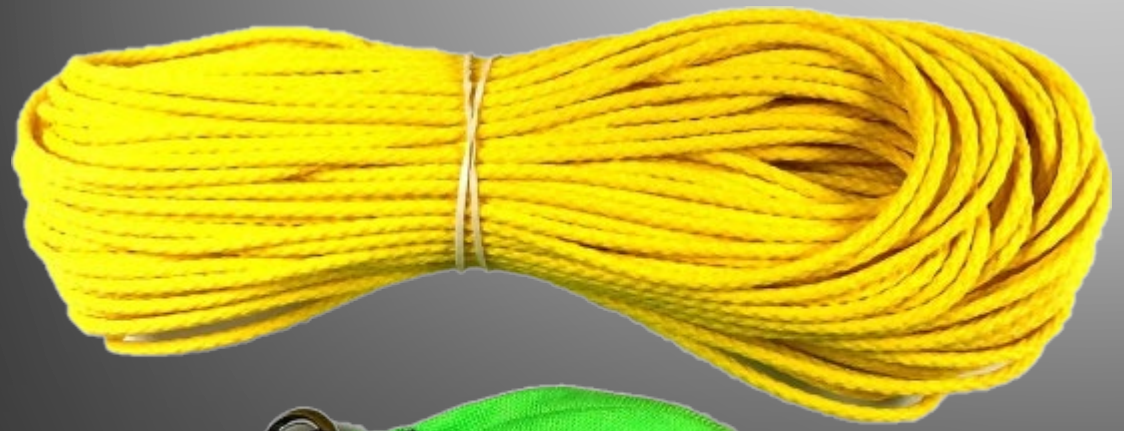
CLIMBING GEAR
PULLEYS

MICRO PULLEYS ARE USED IN MANY ARBORIST SYSTEMS. FROM RIGGING TO CLIMBING, COMMON EXAMPLES ARE:

- **HITCH TENDING SYSTEMS**
- **PULLEY RE-DIRECTS**
- **MECHANICAL ADVANTAGE SYSTEMS**

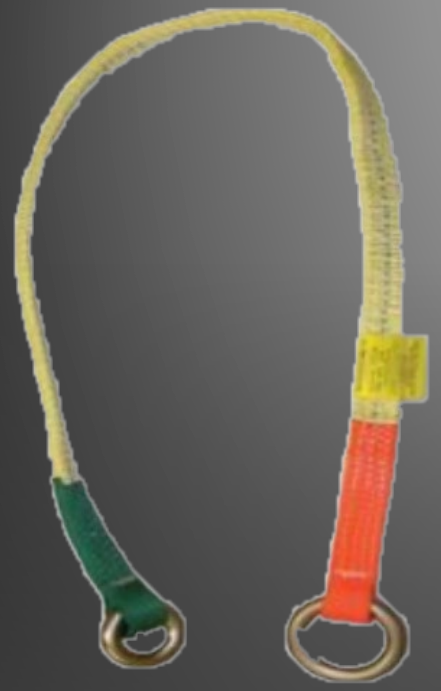
THE CMI TROLLEY TO THE RIGHT IS AN EXAMPLE OF A PULLEY COMMONLY USED IN ZIP-LINE SYSTEMS

CLIMBING GEAR
THROWBALLS/THROWLINE

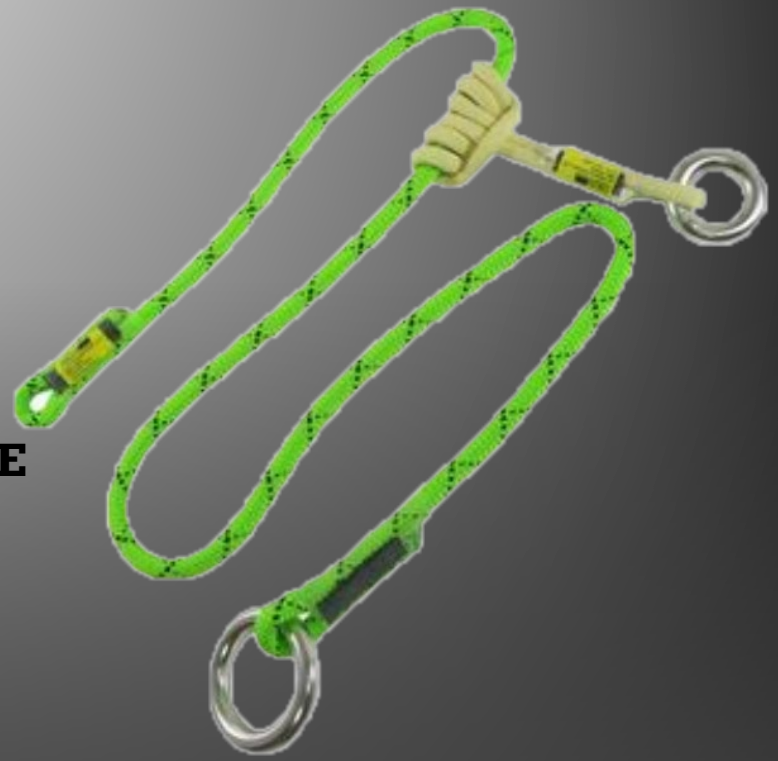


THROWLINE TECHNIQUES ARE EXTREMELY ADVANTAGIOUS TO THE ARBORIST. ALLOWING THEM TO SET A CLIMB LINE OR RIGGING LINE FROM THE GROUND. STORAGE AND DEPLOYMENT METHOD MOST COMMON IS USING A COLLAPSABLE CUBE

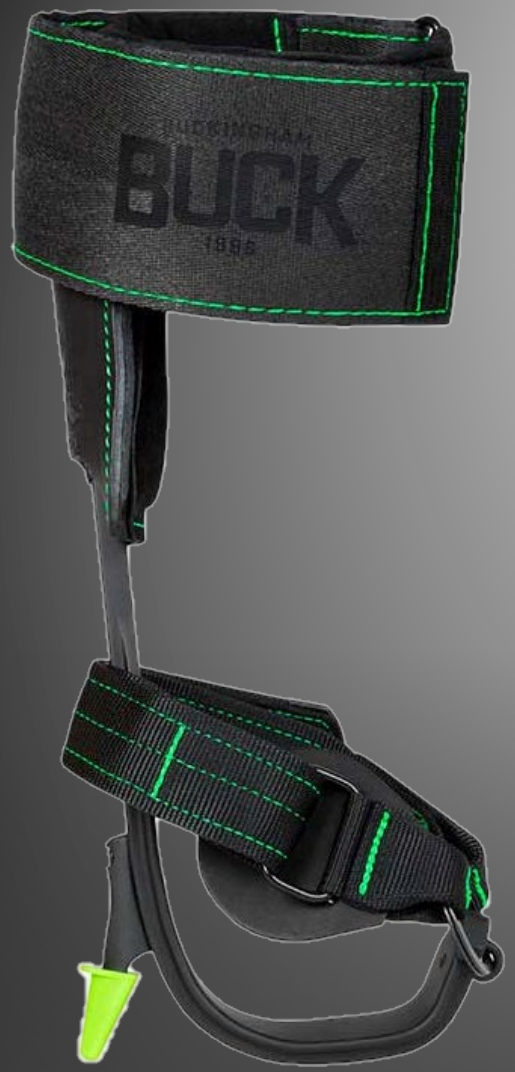
CLIMBING GEAR
FRICTION SAVERS/FALSE CROTCHES



- REDUCES CAMBIUM LAYER DAMAGE
- REDUCES FRICTION ON THE ROPE
- ADJUSTABLE AND USED ON A SPAR
- CAN BE INSTALLED AND RETRIEVABLE FROM THE GROUND



CLIMBING GEAR
SPURS



THE TRIED AND TRUED METHOD OF GETTING UP A TREE. CLIMBING SPURS, RANGE IN MATERIAL AND GAFF COMBINATIONS

- **STEEL, ALUMINUM, TITANIUM OR CARBON FIBER**
- **POLE GAFFS, AMERICAN GAFFS AND EUROPEAN GAFFS**

CLIMBING GEAR
ASCENDERS

ASCENDERS CAN BE USED IN ALMOST EVERY CLIMBING SYSTEM BUT MOST COMMONLY USED IN SRS TECHNIQUES. OPTIONS INCLUDE:

- **FOOT ASCENDERS**
- **KNEE ASCENDERS**
- **SINGLE HAND & DOUBLE HAND ASCENDERS**

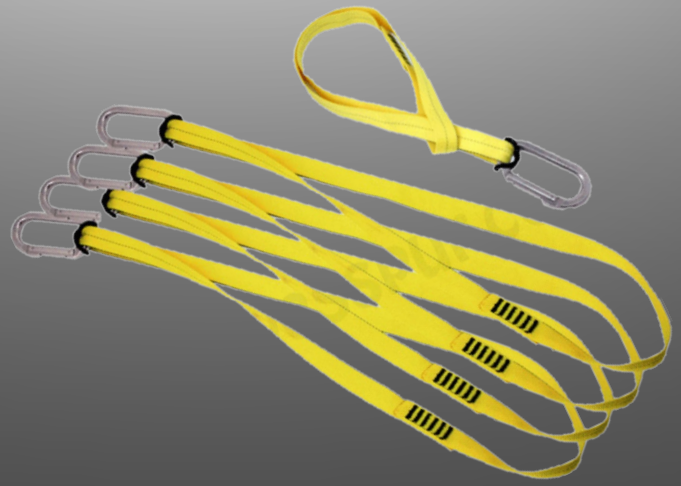
CLIMBING GEAR
ROPE WRENCH

THE ISC ROPE WRENCH IS A MID-LINE ATTACHABLE DEVICE THAT ALLOWS THE CLIMBER TO BOTH ASCEND & DESCEND ON A SINGLE ROPE USING THEIR EYE-N-EYE FRICTION HITCH

CLIMBING GEAR STORAGE

ROPE & GEAR STORAGE IS IMPORTANT. MANY OPTIONS ARE AVAILABLE, SOME CAPABLE OF DEPLOYING YOUR ROPE RIGHT FROM THE BAG. THESE ARE VERY PRACTICAL WHEN BACK-PILING IS REQUIRED IN LESS THEN FAVORABLE CONDITIONS.

RIGGING EQUIPMENT



RIGGING EQUIPMENT
MECHANICAL ADVANTAGE

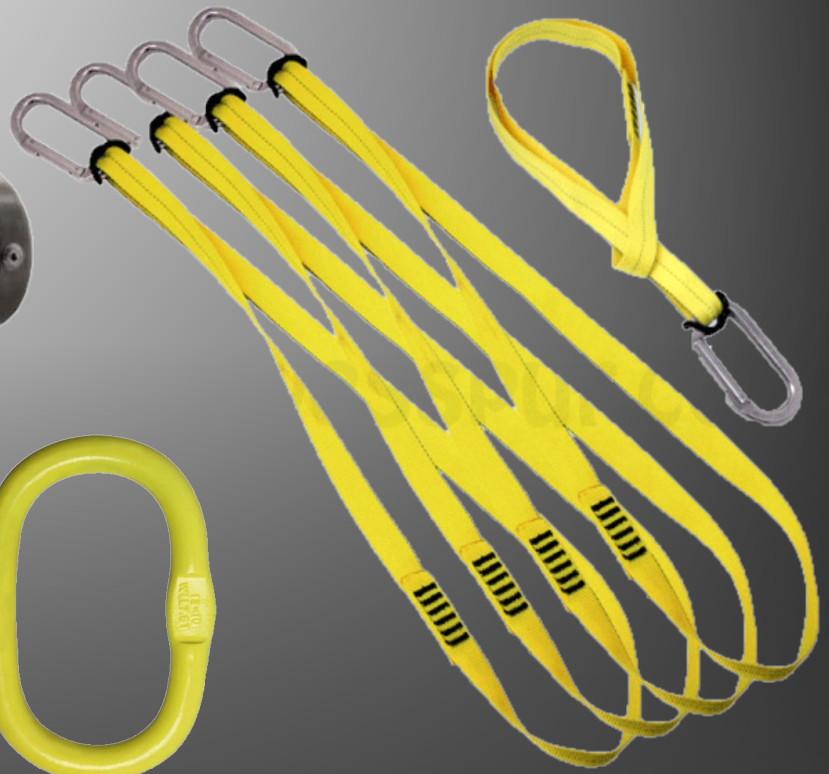
MECHANICAL ADVANTAGE, BEING ABLE TO CREATE MORE OUTPUT FORCE THEN INPUT FORCE. THE TWO MOST WIDELY USED SYSTEMS ARE THE MASDAM ROPE PULLER "ROPE JACK" AND A SET OF 4 WAYS.

EACH PROVIDE ADDED FORCE, IN VERY DIFFERENT WAYS AND SHOULD BE APPLIED IN THEIR RESPECTIVE SITUATIONS.

- **4 WAYS ARE MUCH MORE DIVERSE, AND CAN BE USED IN PULLING AND LIFTING SCENARIOS**
- **THE ROPE JACK IS USUALLY APPLIED IN SIMPLE TREE/SPAR PULLING**

RIGGING EQUIPMENT
SPEED LINING & LOWERING DEVICES

TWO RECENT ADVANCES IN THE TREE CARE INDUSTRY, IS THE PORT-A-WRAP WHICH IS A PORTABLE FRICTION DEVICE THAT CAN BE USED TO LOWER VERY HEAVY LOADS SAFELY AND UNDER CONTROL. ANOTHER IS INCORPORATING ENDLESS LOOPS AND CARRIAGE PULLEYS INTO ZIPLINE SYSTEMS WHICH ALLOW FOR RAPID BRANCH ATTACHMENT AND TRANSITION INTO A MORE APPLICABLE DROP ZONE.



RIGGING EQUIPMENT
THIMBLES & BLOCKS

RIGGING BLOCKS AND THIMBLES ARE VERY DIVERSE. THEY CAN BE USED IN LIGHT DUTY SYSTEMS OR THE LARGEST OF JOBS. RIGGING POINTS OR RE-DIRECTS, LIFTING OR LOWERING.

THE POSSIBILITIES ARE LEFT TO IMAGINATION.

VEGETATION MANAGEMENT CHEMICALS

- AN IMPORTANT PART OF VEGETATION MAINTANENCE IS PREVENTING NUISANCE TREES FROM RESPROUTING AFTER CUTTING.
- GARLON 4 ULTRA AND GARLON 3A ARE THE TWO MOST WIDELY USED IN OUR SERVICE AREA
- GENERALLY APPLIED FROM A HAND SPRAYER USING A BASIL APPLICATION

EQUIPMENT
CHIPPERS

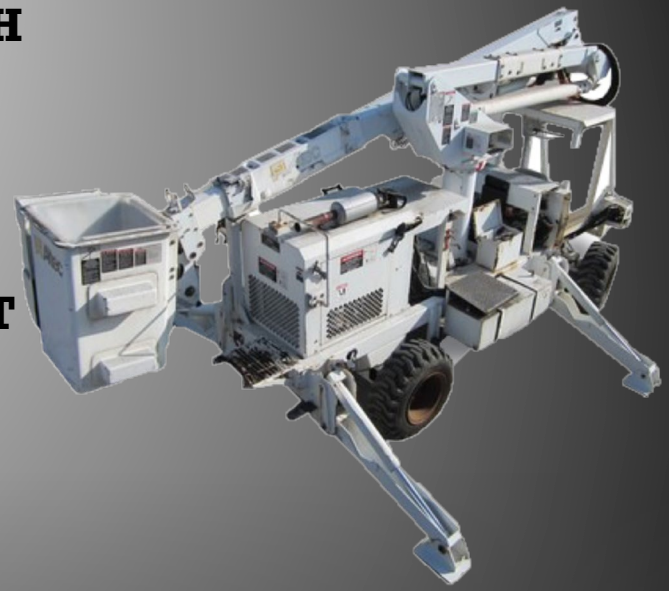
TWO OF THE MOST COMMON STYLE BRUSH CHIPPERS:

- **DRUM CHIPPER: ROTATING STEEL DRUM WITH BLADES THAT FEED AND CHIP MATERIAL , SPINNING AT ENGINES RPM**

- **SELF FEEDER: ROTATING DRUM OR DISK WITH BLADES AND SEPARATE FEED ROLLERS THAT SLOWLY ADVANCE BRUSH INTO THE BLADES**

EQUIPMENT
AERIAL LIFTS

FROM 30’ BACKYARD BOOMS THAT CAN FIT THROUGH A GATE ALL THE WAY TO ALTECS 105’ BIG BOOM, AERIAL LIFTS COME IN MANY SIZES AND CAN BE UTILIZED IN MANY APPLICATIONS



THE 50’-70’ REACH BOOM IS UNDOUBTEDLY THE MOST PREVELANT IN THE NORTHWEST STATES. TAKING MANEUVERABILITY AND TREE ACCESS TO NEW HEIGHTS

EQUIPMENT
STUMP GRINDER

REMOVING STUMPS COULD BE COMMON PRACTICE OR RARE EVENTS DEPENDING ON THE COMPANY YOU ARE WORKING FOR.

- **GENERALLY SKID-STEER, WITH REPLACABLE CUTTER TEETH ATTACHED TO A HEAVY ROTATING STEEL DISK.**

- **SAFTEY SCREENS ARE BEST PRACTICE TO MAINTAIN FLYING DEBRI**