



## **Standard Operating Procedures**

### **Purpose and Scope**

Sparks Aviation Center has adopted standard operating procedures in order to maintain a high safety standard and efficient operation. The SOPs establish process consistency for equipment, aircraft servicing, and other flight line operation. While these SOPs are designed to be relatively comprehensive, it is not possible to address all situations that may arise while working in this environment. Team Members should use good judgment and utilize the principles outlined in this document to minimize hazards.

### **Compliance**

Sparks Aviation Center will ensure compliance with the published SOPs by sporadically auditing the processes by which we use these procedures to mitigate risks and hazards before they cause issue. Audits and inspections will help identify the effectiveness of SOP management and assist with regulatory compliance and a safe workplace. Safety deficiencies discovered during this process will be corrected as soon as possible. Conditions that present a hazard should be corrected or controlled immediately. Team Members must complete associated training and sign the acknowledgement of each SOP section before performing the specified operation.

### **Standard Operating Procedures**

Team Members will receive familiarization training and qualification prior to using ground support equipment or performing an unsupervised task.

Sparks Aviation Center SOPs are comprised of the following:

- Ramp Safety Awareness
- Utility Vehicles & Carts
- Tow Vehicles
- Ground Power Units
- Lavatory Service & Carts
- Avgas Mobile Refuelers
- Jet Mobile Refuelers
- Fuel Farm & Mobile Refueler Topping
- Pre-Heat Carts



- Potable Water Carts
- Marshalling
- Snow Plowing
- Snow Sweeping
- Wing Walking
- Towing Operations
- Towing Connection Equipment

## **SOP Review**

Sparks Aviation Center SOPs are constantly under review by the Management Team. This SOP plan is designed to be a living document so it may be amended at any time in order to guarantee adherence to industry best practices and operate more efficiently at the local level.

## **Responsibility**

All Team Members are responsible for adhering to the provisions of the Sparks Aviation Center SOPs. Adherence to this document provides a framework for a safe and efficient environment.

### FBO Owners

The FBO Owners are responsible for the well-being of the business and as such have tasked the FBO General Manager in creating and ensuring compliance with standard operating procedures (SOPs).

### FBO General Manager

The FBO General Manager (GM) serves as the SOP administrator and point of contact for any SOP related issues. The GM is responsible for ensuring FBO personnel adhere to the established SOPs which have been approved by the FBO Owners.

### FBO Line Service Manager

The FBO Line Service Manager (Line Manager) implements company SOP policies, holds regular SOP briefings, and conducts SOP training. The Line Manager ensures adequate personal protective equipment (PPE) is available, worn in safe operating condition, and employees are in compliance with the established SOPs in this manual. The Line Manager will evaluate the safety performance of all employees, recognize employees who engage in safe work practices, and appropriately discipline employees for failure to comply with these practices.



## Team Members

Team Members must adhere to all provisions of the SOPs and are responsible for performing all aspects of the job in a safe manner. They must inform management of any existing or potential workplace hazards that could cause personal injury. Failure to adhere to these policies or to wear and use PPE may result in disciplinary action, up to and including termination.

## **Training**

Training is vital to ensure Team Members are adequately competent to safely conduct their jobs and to reinforce the standard operating procedures. It also provides an opportunity to communicate SOP principles and the commitment of management to maintain a safe workplace.

## **Communication**

Sparks Aviation management encourages Team Members to communicate existing and potential deficiencies of standard operating procedures. Sparks values such input and will review these concerns and constructive suggestions. Any policy or procedure change will be communicated to the affected employees.

## **Record Keeping**

Training and disciplinary action records will be maintained by the GM in Team Member personnel files. SOP acknowledgements will be maintained in the Team Member personnel file.



## Ramp Safety Awareness

All Sparks Aviation Team Members will abide by the following ramp safety awareness procedures:

- Situational awareness is your highest priority! Maintain constant attention to your surroundings regardless of operational tempo. Pay particular attention to and keep clear of all moving objects (i.e. rotating propellers, jet engine intakes, aircraft, vehicles, & pedestrian traffic).
- Extreme caution is required when lightning is in the area. Cease ramp operations and seek shelter when lightning is within 5 miles of your location.
- Footwear - closed-toe shoes are a requirement to work as a line service technician. Acceptable footwear will provide some level of protection from items striking bare skin on the foot.
- Standard personal protective equipment (PPE) required for general ramp operations are safety vest and hearing protection, regardless of task assignment. The use of gloves, eye protection, and whistles should be used as required by the task. Use caution on icy and/or wet surfaces. Hangar floors can be slippery. In freezing conditions ice can form inconspicuously on surfaces (black ice), posing an increased slip and fall hazard.
- Watch for running aircraft engines, evidenced by rotating beacons, rotating propellers, etc. Aircraft always have the right of way including aircraft under tow.
- Avoid jet-blast and prop-wash, and avoid walking or driving a piece of equipment behind an aircraft's running engines. Generally, larger and military fighter aircraft pose a greater hazard. Specifically, aircraft size and height of jet-blast/prop-wash should be considered when conducting operations around running aircraft engines.
- Be alert to large aircraft and military jet intakes. People and property can be sucked into such intakes resulting in injury or death.
- Be aware of untrained pedestrians on the ramp. It may be necessary to escort or direct them away from potential hazards.
- Foreign object debris (FOD) can cause personal injury and aircraft damage. Remove or secure all loose items on the ramp and ground service equipment (GSE). All PPE should be secured to avoid ingestion into an engine intake.
- Exercise extreme caution around propeller aircraft. Do not walk or place equipment in the prop-arc unless specific aircraft operational constraints require it.
- Approach propeller aircraft only after the engines are no longer under power, except during ground power unit (GPU) operations. If it is necessary to immediately secure the aircraft when the propellers are still rotating, chock the gear furthest from the propellers. Once the propellers have come to a complete stop, resume standard chocking procedures. Use caution as propellers tend to disappear from view when rotating.
- Position shuttle busses, crew cars, limos, & other vehicles with wheels turned away from aircraft and placed in park with the emergency brake set while on the ramp.



- Only trained personnel may approach a helicopter when the engine is running, and the main blades and tail rotor are rotating.
- Remain within the pilot's field of vision and stay away from the tail rotor when marshalling a helicopter.
- Be aware of static wicks, flight control surfaces, and pitot tubes when working around an aircraft. Inattention can cause personal injury and damage aircraft components.
- Return ground service equipment to designated areas after use.
- Chock all ground support equipment after use.
- Only enter an aircraft after you have received permission from the flight crew.
- Do not open an aircraft door unless you have received aircraft-specific training and permission from the aircraft owner or flight crew. Do not open a door while the aircraft's engines are still running, as the aircraft may still be pressurized.
- Maintain a tidy ramp space. Remove chocks from ramp promptly if not in use. Aircraft, either on the transient ramp space or on tie-downs, should be arranged in an orderly fashion that allows for a safe and efficient operation.

### **Ramp Weight Limits**

The ramp has been conservatively estimated by an engineering firm and the resulting PCN code of 28/F/C/X/T, which allows for the following maximum weights and landing gear configurations.

Single Wheel: 73,000 lbs.

Dual Wheel: 96,000 lbs.

Dual Tandem Wheel: 176,000 lbs.

Dual Double Tandem Wheel: N/A



## Utility Vehicles/Carts (UVC)

All Sparks Aviation utility vehicles/carts will be used in accordance with the following safety and operating procedures:

- The operator is responsible for ensuring that the UVC and equipment needed for the operation is inspected and ready prior to use.
- Park UVCs in an area that will not interfere with aircraft operations.
- Place UVCs into park or neutral, set the parking brake, and turn the ignition switch to the "OFF" position with wheels turned away from aircraft when exiting the UVC or leaving it unattended. Chocks are mandatory for all equipment parked with or without a parking gear.
- Do not use the UVC as a ladder device for any reason.
- Perform a brake check prior to approaching an aircraft.
- Do not position UVCs closer than 10 feet to the aircraft. Use a guide man to direct the UVC when backing it up.
- Operate UVCs from the driver's seat, in a safe manner and speed, with both feet placed securely inside the vehicle. The use of seatbelts is recommended when available.



## Tow Vehicles

All Sparks Aviation tow vehicles will be used in accordance with the following safety and operating procedures:

- The operator is responsible for ensuring the tow vehicle and tow vehicle equipment needed for the operation is inspected and ready prior to use.
- Ensure the proper size/type of tow vehicle is utilized for the the towing operation.
- Position or stage tow vehicles in an area that will not interfere with aircraft operations.
- Perform a brake check prior to approaching an aircraft.
- Place tow vehicle into park or neutral, set the parking brake, and turn the ignition switch to the "OFF" position with wheels turned away from aircraft when exiting the tow vehicle or leaving it unattended. Chocks are mandatory for all equipment parked with or without a parking gear.
- The use of a guide man is necessary when maneuvering tow vehicles underneath aircraft surfaces.
- Operate tow vehicles in a safe manner and speed, considering weather, traffic, and surface conditions.
- Operate tow vehicles from the driver's seat, in a safe manner and speed, with both feet placed securely inside the vehicle. The use of seatbelts is recommended when available.
- Passengers on a tow vehicle must utilize a permanently installed seat or a standing platform specifically designed to safely transport a passenger.
- Verify the integrity of of the tow connection prior to any movement. Ensure all cables, hoses, and chocks (etc.) are properly secured on the equipment being towed.
- Never exceed an 85-degree angle between a tow bar and a tow vehicle. Exceeding an 85-degree angle may result in the towbar contacting the tow vehicle, potentially causing damage to the tow vehicle and the aircraft.



## Ground Power Units (GPU)

All Sparks Aviation ground power units (GPUs) will be used in accordance with the following safety and operating procedures:

- The operator is responsible for ensuring the GPU and equipment needed for the operation is inspected and ready prior to use.
- Start the engine opposite the GPU when GPU power connection points are within close proximity (5 feet) of moving propellers. The engine within close proximity of the connection point must be started under the aircraft's own power.
- Ensure the GPU has a sufficient amount of fuel prior to use.
- Do not supply power to the aircraft by direct connection to the battery.
- Tow GPUs with an approved tow vehicle that is capable of safely handling the weight and size of the GPU.
- Select the appropriate GPU for the aircraft. Verify the correct power setting before hooking up to the aircraft (i.e. 12-14 volt or 24-28 volt).
- Do not position a GPU closer than 5 feet from any aircraft surface. Use a guide man to help position the GPU when necessary.
  - Position the GPU to avoid jet blast, prop wash, or flap extensions. When practical, position the GPU at the right rear of the aircraft to reduce cabin noise and prevent baggage area trip hazards to passengers and crew.
  - Always set the brake on the GPU and chock one non-steering wheel.
  - Always disconnect the tow vehicle from the GPU prior to connecting to the aircraft. No three point connections are allowed.
  - Do not attach/detach or turn off/on a GPU while the aircraft is being fueled.
  - Do not leave a GPU connected to an aircraft when GPU power is not being provided to the aircraft. Leaving an unenergized GPU connected to an aircraft can damage the aircraft battery.
- Select rated RPM/high throttle position after adequate warmup. Ensure the engine is running at a consistent RPM. Turn the contactor switch on only once the crew has indicated to do so. Check with the flight crew to verify the GPU is properly delivering power to the aircraft.
- When directed by the pilot, proceed safely to the GPU, turn the contactor switch off, turn the throttle to idle, and with caution, disconnect the GPU from the aircraft. Do not reconnect the GPU to the tow vehicle unless the GPU has been unplugged from the aircraft.
- Verify the aircraft is all clear and ready for departure with the flight crew following disconnection of the GPU.
- Return the GPU to its storage location, chock one non-steering wheel, and turn the engine off.





## **Lavatory Service and Carts**

All Sparks Aviation lavatory service and cart operations will be used in accordance with the following safety and operating procedures:

### **Portable Lavatories**

- Use gloves and appropriate PPE when servicing a lavatory.
- Request the flight crew remove and/or reinstall the aircraft's portable lavatory device.
- Take precautions to secure the portable lavatory device prior to transportation for service.
- Refill aircraft lavatories using the correct amount of solution. When in doubt, verify the correct amount of solution with the Line Service Manager or flight crew. Make sure all lavatories are returned clean, with no water or blue stains on the exterior.
- Before storing a portable lavatory, ensure it is serviced and labeled with the aircraft registration number.

### **Aircraft Lavatories (Externally Serviced)**

- N/A



## **Avgas Mobile Refuelers**

All Sparks Aviation avgas mobile refuelers will be used in accordance with the following safety and operating procedures:

- Sump the refueler and perform all daily checks prior to the first Avgas refueling of the day.
- Ensure 10 feet of clearance between all points of the refueler when driving between aircraft and/or GSE.
- Use a guide man if needed while backing up the refueler.
- Do not block the over-wing nozzle control/deadman or safety controls.
- Remain outside the cab during all refueling operations to monitor the system, the aircraft, and the fuel truck for spills and be in position to engage emergency shutoffs if necessary.
- Use wing protection mats at all times unless otherwise instructed by the flight crew. Keep wing protection mats clean and free of debris that may scratch the surface of the aircraft.
- Do not fuel an aircraft in a hangar.
- Know the location of the refueler's tank vent and keep it away from a heat source. (i.e. engine or APU exhaust)
- Drive the refueler at a safe speed within ramp or airport speed limits. Refuelers are only allowed on designated ramps or roads when authorized by management.
- Slow down when turning. Fuel loads will shift and the load shift will be more prevalent when the service tank is not full. Use caution as shifting loads can cause a refueler to rollover.
- The standard distance between the refueler and aircraft is 10 feet when fueling. Distances less than the standard require the use of a guide man or supervisor approval.
- Perform a brake check prior to approaching an aircraft.
- Set the parking brake when exiting the refueler.
- Use an appropriate sized ladder to refuel aircraft with fuel port access out of reach from a ground position. Do not step on the top two rungs. During high winds, lay the ladder on the ground or ask another staff member to steady the ladder. Avoid placing a ladder upright under a wing while fueling. The weight of the fuel loading the wing may cause the wing to drop onto the top of the ladder.
- Bond the refueler to an appropriate bonding point on the aircraft prior to fueling.
- Verify the aircraft requesting fuel requires jet fuel. Be aware there are jet fuel turbine or diesel conversions on some models.
- Follow the emergency response procedures in the event of a fuel spill or fire.
- Monitor refueler gauges while refueling an aircraft (i.e. nozzle & differential pressure).
- Ask your supervisor before filling any tank on an aircraft if you are uncertain which tanks should be filled, or the order in which to fill them.
- Record each fuel transaction in the paper record and Total FBO.



## Jet Mobile Refuelers

All Sparks Aviation mobile jet refuelers will be used in accordance with the following safety and operating procedures:

- Sump the refueler and perform all daily checks prior to the first Jet-A refueling of the day.
- Ensure 10 feet of clearance between all points of the refueler when driving between aircraft and/or GSE.
- Use a guide man if needed while backing up the refueler.
- Do not block the over-wing nozzle control/deadman or safety controls.
- Remain outside the cab during all refueling operations to monitor the system, the aircraft, and the fuel truck for spills and be in position to engage emergency shutoffs if necessary.
- Use wing protection mats at all times unless otherwise instructed by the flight crew. Keep wing protection mats clean and free of debris that may scratch the surface of the aircraft.
- Do not fuel an aircraft in a hangar.
- Know the location of the refueler's tank vent and keep it away from a heat source. (i.e. engine or APU exhaust)
- Drive the refueler at a safe speed within ramp or airport speed limits. Refuelers are only allowed on designated ramps or roads when authorized by management.
- Slow down when turning. Fuel loads will shift and the load shift will be more prevalent when the service tank is not full. Use caution as shifting loads can cause a refueler to rollover.
- The standard distance between the refueler and aircraft is 10 feet when fueling. Distances less than the standard require the use of a guide man or supervisor approval.
- Perform a brake check prior to approaching an aircraft.
- Set the parking brake when exiting the refueler.
- Use an appropriate sized ladder to refuel aircraft with fuel port access out of reach from a ground position. Do not step on the top two rungs. During high winds, lay the ladder on the ground or ask another staff member to steady the ladder. Avoid placing a ladder upright under a wing while fueling. The weight of the fuel loading the wing may cause the wing to drop onto the top of the ladder.
- Bond the refueler to an appropriate bonding point on the aircraft prior to fueling.
- Verify the aircraft requesting fuel requires Jet fuel. Verify with the pilot if the aircraft being fueled will require Prist or anti-icing additive (FSII).
- Follow the emergency response procedures in the event of a fuel spill or fire.
- Monitor refueler gauges while refueling an aircraft (i.e. nozzle & differential pressure).
- Ask your supervisor before filling any tank on an aircraft if you are uncertain which tanks should be filled, or the order in which to fill them.
- Record each fuel transaction in the paper record and Total FBO



## Fuel Farm and Mobile Refueler Topping

The Sparks Aviation fuel farm and refueler topping process will be used in accordance with the following safety and operating procedures:

- Set the parking brake and turn off the ignition before exiting the refueler.
- Bond the refueler prior to any attachment of any fuel farm hoses.
- Connect your Scully system when available.
- Select appropriate tank to refill refueler service tank.
- **WARNING: DO NOT REMOVE PRODUCT BELOW LOW TANK LEVELS**
  - **AVGAS FUEL FARM TANK(S) MUST HAVE A MINIMUM OF 12" OF AVGAS IN THE TANKS AT ALL TIMES.**
- Verify the storage tank's fuel from which you are topping has been sumped and checked.
- Connect hose and open refueler valve to receive load.
- Position valves accordingly for the tank from which you are filling.
- Verify the refueler high level shutoff system is functioning properly. The refueler operator should always be aware of the gallon amount needed to refill the refueler.
- Do not block the deadman control.
- Remain outside the vehicle and in a position to perform emergency shutoff procedures if necessary while topping a mobile refueler.
- Follow the emergency response procedures in the event of a spill or fire. Replace all hoses and dust caps when the fuel transfer is complete. Return all valves to their appropriate positions.
- Do not leave a refueler unattended while taking on fuel.
- Do not use a cell phone while transferring fuel to or from a refueler.
- Smoking or the use of lighters or matches within 50 feet of the refueler or fuel farm is strictly prohibited.
- ASIG Fuel Farm On-Screen Procedures
  - Enter last 4 digits of SSN
  - Enter 4-digit PIN
  - Enter Truck ID (11 or 13)
  - Enter requested gallon amount
  - Press Start
  - When fueling complete
    - Press stop
    - Press print



## **Marshaling**

All Sparks Aviation marshalling services will be in accordance with the following safety and operating procedures:

- Maintain situational awareness and scan for potential hazards on the ramp.
- Chocks must be in serviceable condition and of adequate size for the aircraft being chocked. Use the larger rubber chocks for jet and turbo prop aircraft if practical
- Before signaling to the flight crew that the aircraft is chocked, make sure the base of the chock is not on any ice or other unsafe surface condition which could cause it to break free.
- Do not place your hand between an aircraft tire and a chock.
- Chock the nose landing gear on all aircraft. Chock all aircraft landing gear during inclement weather if tie-down and hangar space are not available.
- Maintain constant visual contact with the aircraft as it may roll after it has come to a stop. Do not assume that a pilot has set the brake.
- If marshalling at night, use lighted night wands to marshal aircraft and ground vehicles.
- Properly marshal every aircraft on and off the Sparks Aviation ramp. Line service personnel may be excused from marshalling aircraft off the ramp if the pilot indicates it is not necessary or other vital FBO operations do not permit.
- Ensure the wheels are cleared of chocks, cones, and the carpet is removed and safely secured prior to marshalling an aircraft off the ramp.
- All marshalers and line service personnel serve as a greeter and representative of Sparks Aviation. Line service personnel are responsible for making favorable impressions and ensuring aircraft crews' and passengers' needs are met.
- Park vehicles, carts, or other equipment to the right or left of an approaching aircraft, and never directly in front of the nose or wings. Keep the area behind the marshaler clear to avoid getting caught between the aircraft and other equipment.
- Ensure that no vehicle approaches an aircraft until its engines are shutdown and the aircraft has been properly chocked.
- Use a wing walker whenever possible.
- Immediately stop the aircraft and ask for wing walkers if there is doubt about aircraft clearance. If necessary, stop the aircraft and park it in the current location.

## **Propeller Aircraft**

- Approach propeller aircraft only after the propellers have stopped turning, except during GPU operations. If it is necessary to immediately secure the aircraft when the propellers are still rotating, chock the gear furthest from the propellers. Once the propellers have come to a complete stop, resume normal chocking procedures. Use caution as propellers may disappear from view while rotating.



- Avoid the propeller arc while parking or marshalling, and do not turn your back to a spinning propeller.
- Avoid parking single engine aircraft near larger jet aircraft to avoid potentially damaging jet blast.

### **Jet Aircraft**

- Do not stand in front of the engine air intake hazard zone of jet aircraft. Wait until the aircraft is safe to approach. Make sure hats and/or any loose clothing are secured.
- Use extreme caution when marshaling aircraft to avoid damaging surrounding property from jet blast.

### **Helicopters**

- Use proper hand signals and stay at a safe distance when marshaling a helicopter.
- Only trained personnel may approach a helicopter when the engine is running, and the main blades and tail rotor are rotating. Stay clear of the tail rotor as it is virtually invisible to the eye when running. Maintain eye contact with the pilot at all times and use hand signals to confirm actions for parking.
- Advise all passengers to stay clear of the ramp area until the helicopter is safe to approach. Ensure all light weight articles (hats, papers, glasses, etc.) are secured.
- Chock both main landing gear wheels with adequately sized chocks, if applicable.
- Make sure the area is free of obstructions and debris when marshaling a helicopter to avoid rotor wash damage to surrounding property.



## Wing Walking

All Sparks Aviation wing walking will be in accordance with the following safety and operating procedures:

- The tow operator is responsible for safe towing of the aircraft and direction of wing walkers with clear communication, both visual and audible.
- Use wing walkers as appropriate when staffing allows. If you are in doubt about aircraft clearance stop the tug and check the clearance yourself and/or use a wing walker.
  - When moving aircraft in Hangar 23 for Autopilots Central, there will nearly always be someone available to check aircraft clearance while under tow.
  - When moving aircraft in Hangar 25 and Hangar 28, it may not always be possible to have a wing walker. Do not continue to move an aircraft if there is any doubt about aircraft clearance; move other aircraft out of the way, find a wing walker, or just stop towing operations.
- Assist the tow operator in conducting a walk around inspection of the aircraft prior to towing. Report any visible damage or irregularities to the tow operator. If any are found, notify the flight crew with a pre-existing damage report prior to the tow.
- Conduct a pre-tow briefing to ensure all team members involved in the aircraft movement clearly understand the upcoming tow movement. The briefing should include possible obstructions, surface conditions, and the final location of the aircraft.
- Conduct a walk around inspection of the aircraft prior to towing. Report any visible damage or irregularities to the tow operator. If any are found, notify the flight crew with a pre-existing damage report prior to the tow.
- Check for gust locks. As applicable, disengage and remove any covers that obstruct free movement of the rudder prior to towing an aircraft.
- Observe a minimum distance between aircraft and objects of 3 feet on the ramp and 18 inches in the hangar. Keep whistles at the ready with aircraft under tow.
- Aircraft will remain chocked during all tow vehicle connections and disconnections. At no time will any chock be removed from an aircraft before the aircraft is secured to the tow vehicle or the aircraft's brakes have been set.
- Note: the outer surfaces move quicker than the inner surfaces when an aircraft is under tow, and in a turn.
- Remain within eye contact of the tow operator to alert of any possible hazards.
- Clearance distances of less than 3 feet are considered high risk movements and must be handled with extreme caution.
- Ask the tow operator to slow down if you are uncomfortable with the speed of aircraft movement.



## Towing Operations

All Sparks Aviation towing operations will be in accordance with the following safety and operating procedures:

- The tow operator is responsible for safe towing of the aircraft and direction of wing walkers with clear communication, both visual and audible.
- Only tow vehicles designated for the purpose of towing aircraft are authorized for aircraft towing operations.
- The operator is responsible for ensuring that the tow vehicle and equipment needed for the operation is inspected and ready prior to use.
- Stop the tow and seek assistance if you are uncomfortable with the operation at any time.
- Due to the nature of our operation, it may not always be possible to have a wing walker. When staffing and the operational pace allows, utilize a wing walker. If at any time you are in doubt of aircraft clearance, stop the tow operation and do not proceed without having ensured clearance yourself or with the assistance of a wing walker. The tow operator is responsible for ensuring aircraft clearance at all times.
- Use wing walkers as appropriate when staffing allows. If you are in doubt about aircraft clearance stop the tug and check the clearance yourself and/or use a wing walker.
  - When moving aircraft in Hangar 23 for Autopilots Central, there will nearly always be someone available to check aircraft clearance while under tow.
  - When moving aircraft in Hangar 25 and Hangar 28, it may not always be possible to have a wing walker. Do not continue to move an aircraft if there is any doubt about aircraft clearance; move other aircraft out of the way, find a wing walker, or just stop towing operations.
- Perform a brake check prior to approaching an aircraft.
- Place the vehicle in park or neutral, set the parking brake, turn the ignition switch to the "off" position, and, if driving a standard transmission tow vehicle, place the vehicle in gear prior to exiting the tug.
- Conduct a pre-tow briefing to ensure all team members involved in the aircraft movement clearly understand the upcoming tow movement. The briefing should include possible obstructions, surface conditions, and the final location of the aircraft.
- Conduct a walk around inspection of the aircraft prior to towing. Report any visible damage or irregularities to the tow operator. If any are found, notify the flight crew with a pre-existing damage report prior to the tow.
- Check for gust locks. As applicable, disengage and remove any covers that obstruct free movement of the rudder prior to towing an aircraft.
- Install gear pins, disconnect steering linkages, and observe aircraft tow limits as applicable. Verify the integrity of the tow connection prior to movement.





- Take the proper precautions responding to the conditions of the ramp (i.e. snow, slush, ice, wind, rain, and ramp grade). Use chains and other equipment and/or processes required for safe operation.
- When towing during low visibility, supplemental light such as flash lights or night wands may be required for walk around inspections, assessing aircraft spacing, and signaling between the tow operator and wing walker.
- Observe a minimum distance between aircraft and objects of 3 feet on the ramp and 18 inches in the hangar.
- Aircraft will remain chocked during all tow vehicle connections and disconnections. At no time will any chock be removed from an aircraft before the aircraft is secured to the tow vehicle or the aircraft's brakes have been set.
- Close and secure any aircraft passenger and cargo access doors prior to any aircraft movement. If you are unfamiliar with the aircraft door operation seek assistance from the flight crew or another team member.
- All wing walkers are to have whistles at the ready when the aircraft is under tow.
- Note: the outer surfaces move quicker than the inner surfaces when an aircraft is under tow, and in a turn.
- Ensure wing walkers remain within eyesight during the tow operation to alert of any possible hazards.
- Clearance distances of less than 3 feet are considered high risk movements and must be handled with extreme caution.
- At no time should the speed of a tow operation exceed a walking pace.
- Follow airport procedures when conducting tow operations on taxiways, runways, or other designated areas.
- Ensure the aircraft is chocked and the towbar, towhead, and/or adapters are removed from the aircraft when the tow operation is complete.

## **Tow Connection Equipment**

All Sparks Aviation tow connection equipment must be inspected and maintained in accordance with the manufacture's guidelines.

### **Weight Limitations**

- Orange Aero Specialties Towbar: 14,000 lbs.
- Joy-Bar: 10,000 lbs.