



# Drone Flyers Club

BASIC FLYING INFORMATION

# The Basics

- ▶ Know Your Drone
- ▶ Know Your Controls
- ▶ Know Your Aircraft Limits
- ▶ Know Your Limits
- ▶ Know Where You Are Flying
- ▶ Know The Laws
- ▶ Planning and Preflight
- ▶ Practice, Practice, Practice
- ▶ When Things Go Wrong

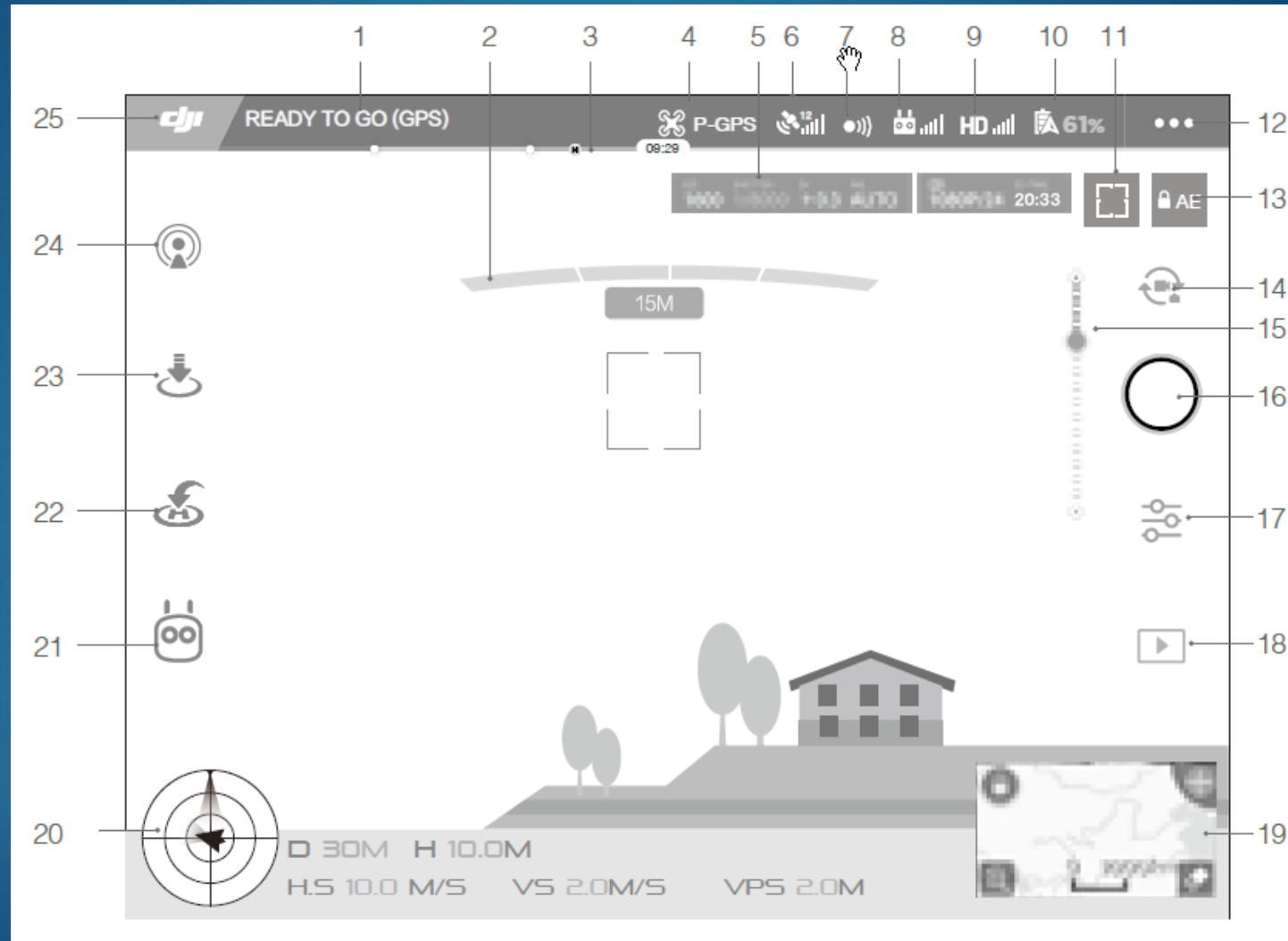
# Know Your Drone

- ▶ Be familiar with all parts and sensors of the aircraft
- ▶ Know what the lights mean, use a cheat sheet on bottom of controller
- ▶ How to turn it on and off
- ▶ Correct installation of prop-guards
- ▶ Correct installation and connection of battery
- ▶ Correct installation of propellers
- ▶ Gimbal guard/lock removal
- ▶ Know the aircraft performance characteristics

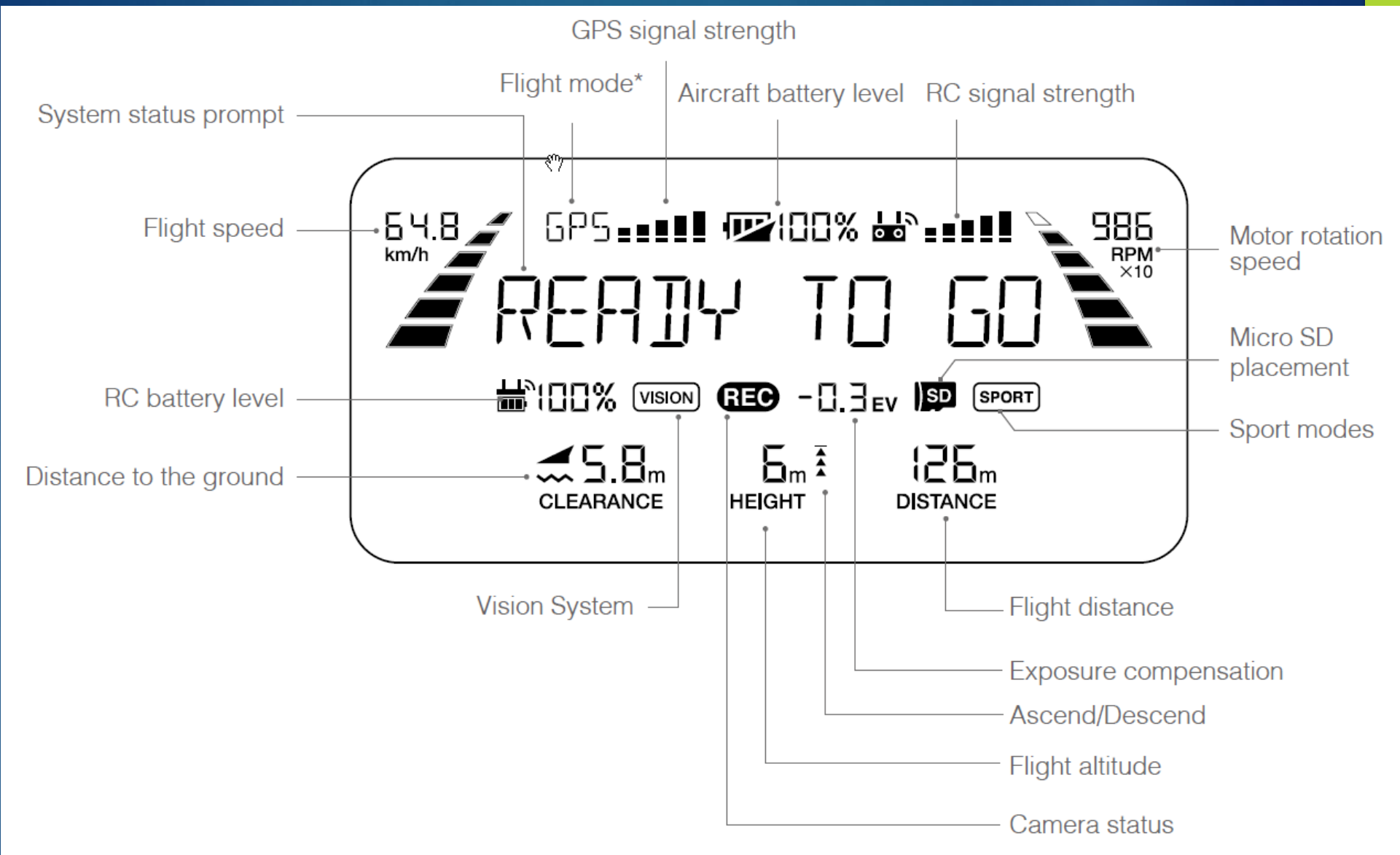
# Know Your Controls

- ▶ Know what ALL the screen indicators mean and what the controls do.
- ▶ Practice using controls before you fly and in a controlled area
- ▶ Know the responsiveness of aircraft to control input – some are adjustable
- ▶ Know what ALL the screen indicators mean and controls do
- ▶ Know your emergency shutdown command
- ▶ Know your software
- ▶ No two drones fly the same – even the same model

# Typical home screens



In the manual



Remote Control Screen (Mavic Pro)

# Know Your Aircraft Limits

- ▶ How far can you control it
- ▶ How far YOU see it
- ▶ Responsiveness – turning and stopping
- ▶ How long can you fly – battery limitations
- ▶ Wind resistance – GPS & Non-GPS (Atti mode)
- ▶ Collision avoidance systems
- ▶ Beginner Mode

# Know YOUR Limits

- ▶ Fly only if you feel safe/comfortable with the flight
- ▶ Don't be distracted/stay focused
  - ▶ Turn OFF the cell phone
  - ▶ Don't engage in side conversations – tell them wait or land the aircraft
  - ▶ Don't wander
- ▶ You are flying a drone – fatigue is real, don't ignore it
- ▶ Stay hydrated
- ▶ Take a break between flights and reassess – Is it safe to fly? Are you safe to fly?



# Know Where You Are Flying

- ▶ Plan your flights before you get there
- ▶ Walk the area before flying
- ▶ Use tools to determine flight restrictions when planning and on-site. Don't rely on just one tool
- ▶ Know the hazards in the flight area – trees, water, people, roads, airports, structures, RF sources, restricted areas
- ▶ DO NOT Trespass
- ▶ Be courteous and respectful to others
- ▶ Be watchful of other drones – manned and unmanned
- ▶ When in doubt – DON'T FLY

# Know The Laws

- ▶ Line of Sight
- ▶ 400 feet
- ▶ 5 miles from airports
- ▶ Not over people
- ▶ Not over sporting events
- ▶ Avoid restricted areas
- ▶ The FAA owns the airspace, not the person, business, or city
- ▶ Stay on top of changes at [FAA.gov](http://FAA.gov) site

# Planning and Preflight

- ▶ Planning
  - ▶ Goals of the flight
  - ▶ Make a flight plan
  - ▶ Review FAA web site for NOTAMs, TFRs, and rule changes
  - ▶ Get permissions and notify airports – check with airports for special events that may be happening
  - ▶ Use available tools and websites when planning
  - ▶ If using on-line maps, check multiple sources
  - ▶ Charge all your batteries, remote, phone, tablet the night before. Carry a power pack and make sure it is charged
  - ▶ Check the weather
  - ▶ Register & Label your drone
  - ▶ Update firmware/software
  - ▶ Test Your equipment

# Planning and Preflight

- ▶ Preflight
  - ▶ Charge ALL your batteries
  - ▶ Cell Phone OFF/Silent mode
  - ▶ Calibrate IMU/Compass/Vision System
  - ▶ Use a checklist before you fly
    - ▶ Many available on-line – modify to fit your needs and aircraft
    - ▶ 1-page or log books work best
    - ▶ Even though you have your preflight checklist memorized, use a paper checklist because you have or will forget something
  - ▶ Walk your flight area
  - ▶ Use a launch/landing pad
  - ▶ Notify people nearby that you will be flying
  - ▶ If in doubt, don't fly
  - ▶ After launch, test aircraft and controls

# Practice

- ▶ Learn the controls so you can operate your drone without looking at them
- ▶ Use Beginner mode if available
- ▶ Use GPS if available
- ▶ Take off & Landing
- ▶ Forward/Back – Climb/descend
- ▶ Left/Right – Rotation
- ▶ Fly with both sticks

# Practice

- ▶ Fly the box
- ▶ Fly Atti mode (no-GPS) to learn manual control, you may/will lose GPS coverage
- ▶ LOS & FPV
- ▶ Control Recovery
- ▶ Learn your controls – DON'T LOOK DOWN
- ▶ Skills translate from drone to drone
- ▶ Always practice with new software before you go flying

# When Things Go Wrong

- ▶ Release the sticks – hands off – let it hover
- ▶ Don't Panic
- ▶ Stop/Hover/Orientation/Plan/Execute
- ▶ Altitude is your best friend
- ▶ Losing Communications – Go UP!
- ▶ Damage and Repairs
- ▶ Property Damage – Report it to FAA
- ▶ Review the incident and LEARN from it



# Where & When We Fly

- ▶ Weather permitting
- ▶ Soaring Eagle Ball Field
- ▶ Tuesdays 8 am – Noon
- ▶ Edna's on The Green at Marsh Bend
- ▶ Thursdays 8 am - Noon
- ▶ Bring aircraft, batteries and a chair
- ▶ Landing/Launch Pad



# Additional Sources

- ▶ YouTube has lots of training videos – some are better than others
- ▶ <https://thedronetrainer.com>
- ▶ DroneFlyerTV.com
- ▶ FAA.gov