



# Virtual Solutions for a COVID World

**FIRST**  
LEGO  
LEAGUE JR.

**FIRST**  
LEGO  
LEAGUE

**FIRST**  
TECH  
CHALLENGE

**FIRST**  
ROBOTICS  
COMPETITION

# Housekeeping

This session will be recorded and available on the [FTC BC](#) Youtube Channel.

There will be time at the end of the presentation for questions, or you can type them in the Chat box.

The slides will be available on the <https://firstroboticsbc.org/> website in the FTC Resources tab.

# Presenters

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# List of Topics

- Outreach Ideas
- Online Workshops
- Engineering Notebook Tips
- Season Planning
- Social Media

# Outreach Ideas

## *How to do Outreach during COVID-19?*

- Mentoring teams
- Creating online resources
- Hosting workshops or visits to companies



# Outreach Ideas

## *Mentoring teams*

- Reach out to teams
  - Social Media
  - Email



# Outreach Ideas

## Online Resources

- FIX IT Tips and Tricks
  - Handouts
  - Tutorial

### Comparing FTC Kits

FIX IT Tips and Tricks

Brand ( and Link )	Actobotics	GoBilda	REV	Tetrix
Kit Year	2019 - 2020	2019 - 2020	2020 - 2021	2020 - 2021
FTC Cost ( after all discounts )	\$494.99 US	\$494.99 US	\$477.00 US	\$545.00 US
Total number of Parts	1827	2063	1350	824
Nuts, Screws, Washers and ZipTies	1003	1516	800	462
Wheels ( Omni and Traction )	8	8	12	8
DC Motors	4	4	2	4
Other Motors ( Servo Included )	4	4	8	4
Channel pieces - Over 10"	8	26	6	6
Channel pieces - Under 10"	22	6	0	16
Channel - Total Length ( Inch )	200 in	163 in	84 in	129 in
Beams, Bars, Extrusion	20	44	28	32
Beams, Bars, Extrusion Length ( Inch )	132 in	222 in	359 in	183 in
Gears/ Sprockets	16 - Metal	17 - Metal	58 - Plastic	12 - Metal
Flat Plate - Surface Area ( sq inches )	252 in <sup>2</sup> - Metal	117.8 in <sup>2</sup> - Metal	44 in <sup>2</sup> - Plastic	76.2 in <sup>2</sup> - Metal
Connectors/ Brackets	6 - Metal	16 - Metal	150 - Plastic	28 - Metal

REV uses X-Rails, which creates a lightweight robot; however, the kit comes with lots of plastic parts and cheap wheels.

goBilda comes with a variety of parts; however, the kit comes with bad traction wheels and motors with weird gear ratios.

Actobotics uses U-Channels and a variety of parts; however, due to the difference in hole patterns, it is hard to be compatible with other kits.

Tetrix offers an easy to use kit with a variety of durable parts; however, it may not include all the parts you require.

In order to see a more detailed summary of the kits, please scan this QR code here:

For more FIX IT Tips and Tricks, please visit: <https://fixit2021.com/the-resources/the-tips-and-tricks/>

# Online Workshops

## Workshop Ideas



- Additional Workshops
  - FIX IT 3491 - Available via FTC British Columbia Discord
  - Wizards.exe 9794 -  
<https://www.youtube.com/channel/UC988iYaWDOF7Fpv6HqN-wjQ>
- Guest Speakers or company visits



# Online Workshops

## *How to host online Workshops*

- Create workshop plan
- Publicize the Workshop
- Host workshop

# Engineering Notebook Tips

## *Changes to the Engineering Notebook*

- Engineering Notebook may have to be submitted online ( Remote Judging )
  - Single PDF
- Google Doc, Microsoft Word
  - Scanning pages

# Engineering Notebook

## Online Resources

- PDF Combiner
  - <https://combinepdf.com/>
- Scanners
  - CamScanner - <https://www.camscanner.com/>
  - Genius Scan ( Android ) - [https://play.google.com/store/apps/details?id=com.thegrizzlylabs.geniusscan.free&hl=en\\_CA](https://play.google.com/store/apps/details?id=com.thegrizzlylabs.geniusscan.free&hl=en_CA)
  - Genius Scan ( Apple ) - <https://apps.apple.com/us/app/genius-scan-pdf-scanner/id377672876>



# Season Planning

## *Team Safety Plan*

- In order to adapt, create a team safety plan
- establish
  - Identify precautions
  - Instill social distancing measures
  - Establish policies for shared materials

# Season Planning

## *Building & Design*

- Decide on policies for shared materials
- Set up arrangement for who is building
- Decide if it is worth incorporating CAD
- Establish set design goals

# Season Planning

## *Team Meetings*

- Who should attend?
  - In person, or online?
- How long should the meeting be?
- Minimum Health precautions
- Communication Method
- FTC Guidance for COVID-19 Interruptions
  - <https://www.firstinspires.org/sites/default/files/uploads/covid/ftc/ftc-guidance-for-covid-interruptions.pdf>

# Social Media

## *Connecting with other teams*

- FTC Forums
  - Reddit
- Other Teams
  - FIX IT Tips and Tricks
  - Instagram
  - Twitter
  - Discord



Scan to join the FIRST  
British Columbia Discord

# Social Media

## *Links to Resources*

- FTC Forums - <https://ftcforum.firstinspires.org/>
  - Reddit - <https://www.reddit.com/r/FTC/>
- FTC British Columbia Discord - <https://discord.gg/qtAJmZe>
- Parabellum
  - Instagram - [https://www.instagram.com/16031\\_parabellum/?hl=en](https://www.instagram.com/16031_parabellum/?hl=en)  
(@16031\_parabellum )
  - Youtube - <https://www.youtube.com/channel/UCVcc-k1ataqkKgMJzZJ14lw/featured>



# Social Media

## *Links to Resources*

- **FIX IT 3491**
  - FIX IT Tips and Tricks - <https://fixit3491.com/fix-it-tips-and-tricks/>
  - Instagram - <https://www.instagram.com/fixit3491/?hl=en> (@fixit3491)
  - Twitter - <https://twitter.com/FIXIT3491>
  - Youtube - <https://www.youtube.com/channel/UCiVCePVVa2TWR1VN5l8YXGg>

# Thanks For Listening!



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