

# Super Smash Bros. Master Document

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## Contents

<b>1</b>	<b>Super Smash Bros. Ultimate (2018)</b>	<b>3</b>
1.1	Meta Knight . . . . .	3
1.1.1	Moves . . . . .	3
1.1.2	Stages . . . . .	6
1.1.3	Matchups . . . . .	6

# 1 Super Smash Bros. Ultimate (2018)

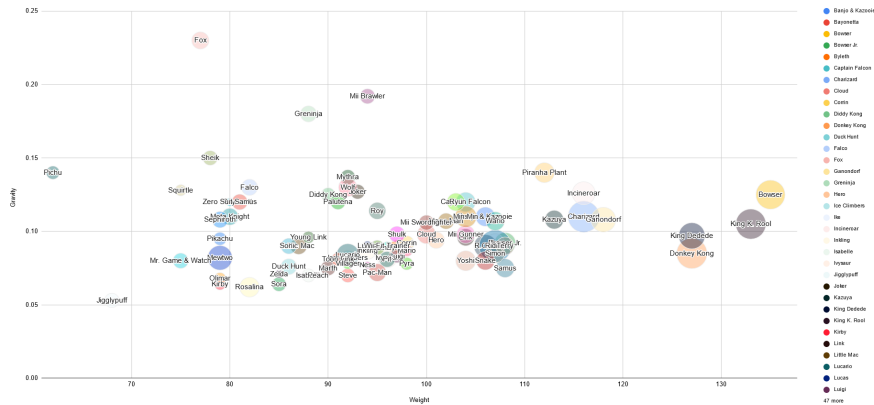


Figure 1: Chart of characters comparing their weight to their gravity. Size of the orbs is the area, as calculated by @WOOFsSmash

## 1.1 Meta Knight

The Galactic Warrior **Meta Knight** returns for a third time, with noticeable nerfs to his toolkit.

Meta Knight is known in Ultimate for his bait-and-switch playstyle focused on touches-of-death (??)

### 1.1.1 Moves

#### Rapid Jab

Startup	Endlag	Total	BKB	KBG
4	27	45	60	140

(Rapid Jab Finish)

While generally unsafe, Meta Knight's *rapid jab* has notable strength in dealing shield pressure, either by the edge of a platform or by crossing up shields using the lengthy skid animation. If it does hit, it may deal up to 20.1%. The move does not fill the typical role of a jab, which would be relegated to his *down tilt*, instead.

#### Forward Tilt

#### Up Tilt

#### Down Tilt

Startup	Endlag	Total	BKB	KBG	Trip
3	13	18	15	88	0.25

An excellent poking tool. With a 3-frame startup and a 25% chance to trip, Meta Knight's *down tilt* serves as the perfect jab for the character, letting him jab-lock or set up for a combo-starter such as a grab or *dash attack*.

### Dash Attack

Startup	Endlag	Total	BKB	KBG	Angle
7	21	32	65	107	60°
-	-	-	-	-	70°
-	-	-	67	-	80°

Often revered as one of the best (combo-starting) dash attacks in the game, Meta Knight's *dash attack* is one of, if not the most important, moves in his toolkit. The variable angles it can send at set up for various *up air* strings. The downside of this move is that it scales somewhat fast. It ceases to be an effective combo-starter at early-mid percentages, but does not become a potent KO-threat until much later percentages.

Nonetheless, this move is fundamental to Meta Knight's combo game, is hard to react-DI, and always provides at least **8 frames** of hit advantage.

**Forward Smash** Due to its absurd shield safety and low endlag, *f-smash* is one of Meta Knight's best grounded neutral options. A potent KO-threat at mid-high percentages that functions greatly as a conditioning tool. After hitting a shield, Meta Knight may throw out a *d-smash* to cover for certain out-of-shield options (e.g. grabs, shield-drops).

### Up Smash

**Down Smash** The fastest *d-smash* in the game. An excellent "get-off-me" option. The unorthodox hitbox shape makes it difficult to hit at times, particularly if you seek to use it as a finisher to your combos, but its speed makes it reliable in what it can do.

### Neutral Air

### Forward Air

**Back Air** Generally a safe spacing aerial with high knockback scaling. Typical finisher for reverse bridges.

### Up Air

Startup	Endlag	Total	BKB	KBG	Angle	Landing Lag	Shield Stun
6	20	26	65	128	67°	9	3
-	-	-	-	-	50°	-	-

The essential move for Meta Knight's ladder combos, as well being an important aspect of his bridges and stage-carries. While its hitboxes are lacklustre, and the move does not come out as fast as in Brawl, and is certainly out-shined

by other up-aerials in Ultimate. In order for ladders to be true, you need to deal 26 frames of hitstun, so that *up air* strings into *up air*. This threshold is approximately  $0.236/w$ , where  $w$  is the opponent's weight:

Character	Pichu	Mario	Bowser
$w$	62	98	135
%	17.4	22.2	27.1
$\%/w$	.281	.227	.200

The usual strategy with *up air ladders* is to keep going until it starts sending into tumble, to then finish the opponent off with *shuttle loop*.

## Down Air

Startup	Endlag	Total	BKB	KBG	Angle	Landing Lag	Shield Stun
4	23	27	30	108	35°	9	3
-	-	-	-	-	50°	-	-
-	-	-	-	-	140°	-	-

*The frame data typically states that the third hitbox has an angle of 50 degrees, but since it hits behind, it is effectively 140°, instead.*

While significantly more modest than its *Brawl* counterpart, Meta Knight's *dair* is one of his most versatile options, it works as

- i. an out-of-shield option
- ii. a footstool option
- iii. a combo-extender
- iv. a combo-starter
- v. a neutral approach
- vi. aerial spacing
- vii. an edgeguarding tool

Now, since *dair* is slightly faster and weaker than *uair*, connecting to itself has a slightly different chart, this time for **4 frame** hit advantage:

Character	Pichu	Mario	Bowser
$w$	62	98	135
%	21.0	27.0	33.1
$\%/w$	.339	.276	.245

What is particularly neat with down air as a move, is with Meta Knight's frame data means that a perfect (buffered) short hop *dair* leads to a landing *dair*:

$$\begin{aligned}
 SH &= 31, \\
 dair &= 27, \\
 SH - dair &= 31 - 27 = 4
 \end{aligned}$$

## Mach Tornado

## Drill Rush

## Shuttle Loop

## Dimensional Cape

**Grabs** As one of his most vital whiff-punishes and approaches alongside *dash attack*, Meta Knight has one of the unfortunately small grab-lengths. At a mere 11.5 units, his grab is tied with the likes of *Wii Fit Trainer*, *Ike & Diddy Kong*. Thankfully, his ground speed makes up for this. If Meta Knight does manage to grab an opponent, it could quickly become a touch-of-death, as both *d-throw* and *f-throw* have associated zero-to-death combos.

**Forward Throw** As Meta Knight's fastest throw, he is able to convert incorrect DI into a ladder-confirm at mid-percentages. This throw also has some niche usage at early percentages against heavies or fast-fallers.

**Backward Throw** Alongside *up throw*, this is Meta Knight's most-damaging throw. What differentiates it from up-throw, however, is its combo-potential at early percentages.

**Up Throw** An occasional option when all else has failed. KO-ing opponents early off of platforms above makes Meta Knight a more potent threat on stages like *Yoshi's Story* & *Battlefield*.

**Down Throw** Meta Knight's most consistent combo-throw. At early-mid percentages it connects quite reliably with most of his toolkit, since a minimum of **21 frames** is provided as hit advantage.

### 1.1.2 Stages

**Yoshi's Story** Possibly the most banned stage (in Europe) against Meta Knight, alongside Battlefield, due to the top platform.

Meta Knight's fullhop reaches the side platforms after **1 step** from the ledge. Essentially, anywhere that is not exactly at the ledge will result in landing on the platform with a fullhop.

**Condor Dive Setup** To do a *Condor Dive* on this stage, you should position yourself on the innermost part of the side platform, input *Drill Rush* while standing and proceed to hold down until you expect to grab ledge.

### 1.1.3 Matchups

**Luigi** As a combo-heavy character, Meta Knights can struggle dealing with Luigi due to having invincibility in the first 7 frames of **Luigi Cyclone** (Aerial). In order to deal with this, it is necessary to only do *true combos* or bait out the cyclone in advance.

**Combos** At 0% falling (shorthop) *nair* provides a lot of good options:

$$nair_{shf} \rightarrow \begin{cases} nair_{bff} \rightarrow dtilt (*) \\ dtilt \\ dmash (*) \\ dash \begin{cases} usmash \\ grab \\ attack \end{cases} \end{cases}$$

The cases marked with (\*) deal approximately 23%, and as such, can set up for better combos which are led by the more usual starters of *dash attack* and *dair*. Dash-grab into up-throw is also a valid contender for this 23% number.

Sadly at 23%, *down air* does not follow true on Luigi. It is first at 26.9%, that it can combo into itself. Before this, you can still do *dair*  $\rightarrow$  *grab*, which is beaten by spotdodge, which in turn is beaten by another *dair*.

Bear in mind, even at 27%, a *shorthop dair* may not be advantageous enough until the minimum 27.8%, assuming zero staleness.

At 40% on the top platform of **Yoshi's Story**, you can drop down and then ladder Luigi to death, if there is imperfect SDI in the perfect direction (**down and away**) with DI out. The combo itself is a bit infeasible because when both stand on the platform, and Meta Knight gets to do a *dropdown doublejump uair*. Theoretically it could be done against a standing Luigi grab.

## Bowser

### Zero to Death

$$fthrow \rightarrow DA \rightarrow bridge \rightarrow finisher$$

Death is avoidable by **DI in**, but may result in getting carried across stage, leaving Bowser at  $\sim 50\%$

**Cloud** This character famously struggles with recovering, and is heavily susceptible to *Condor Dives*.

**Neutral** Approaching Cloud is a difficult endeavour. His anti-air is phenomenal with both *utilt* and *uair*. Even *usmash* and **Climhazzard** function well to keep Meta Knight from landing on him. With this in mind, it may be best to approach from the ground.

An unfortunate dynamic between Meta Knight and Cloud is that Cloud's *dair* beats out Meta Knight's *usmash*, even *uair* at times is not disjointed enough to beat out Clouds landing with *dair*.

**Combos** At 25%, you can carry Cloud across the stage:

$$dair \rightarrow dair_{dj} \rightarrow dair_{ff} \rightarrow \dots$$

## King K. Rool

**Combos** At 0%, this silly interaction just works, since KRool has a large, rotund body:

$$uair \rightarrow dair \rightarrow \begin{cases} grab \\ dsmash \\ \dots \end{cases}$$

This can function as a touch-of-death string:

**Zero to Death**

$$uair \rightarrow dair \rightarrow grabdthrow \rightarrow nair \rightarrow DA \rightarrow bridge \rightarrow finisher$$

**Steve** It might be important for Meta Knights to know how to play against Steve.

**Interactions** Steve's **Minecart** is one of his most annoying moves. Against riding cart, *Mach Tornado* and *Nair* often beat out, or at least, tend to trade with it. *Dsmash* will always beat it out, but requires somewhat tight timing.

Since *minecart* has variable damage depending on its velocity, it can be tough to gauge. But if we assume it to always be *around* 20%, then all we need to know is that if our damage would exceed 11%, then it should at least clank.

**Combos**

**Zero to Death**