

Flow System Rebrand — Work Order Complete

Executive Summary

Successfully replaced all user-facing instances of the old “Anchor / Engine / Whip” terminology with the new “**Ground Flow / Engine Flow / Barrel Flow**” system across the entire CatchBarrels application.

- ✓ All visible UI labels updated
 - ✓ Coach Rick prompts updated
 - ✓ Momentum Transfer coaching text updated
 - ✓ Drill categories renamed
 - ✓ Admin/coach views updated
 - ✓ Internal prop names preserved for backward compatibility
 - ✓ TypeScript compilation successful
 - ✓ Next.js build successful
-

New Terminology

Ground Flow

- **Definition:** Lower body & ground interaction • stability • rhythm at start
- **Replaces:** “Anchor”
- **Covers:** Ground interaction, loading, stability, foundation

Engine Flow

- **Definition:** Torso / core / spine rotation and sequencing
- **Replaces:** “Engine” (when used as a pillar name)
- **Covers:** Hip-shoulder separation, core rotation, torso sequencing

Barrel Flow

- **Definition:** Barrel path, depth, direction, on-plane movement and timing
 - **Replaces:** “Whip”
 - **Covers:** Barrel path, hand path, bat delivery, timing at contact
-

Files Modified

Player-Facing UI Components

1. `components/analysis/aew-cards-section.tsx`
 - Updated section header: “Body Metrics Breakdown” → “Flow Metrics Breakdown”
 - Updated subtitle: “Motion (Timing) • Stability • Sequencing” → “Ground • Engine • Barrel”
 - Updated card titles:
 - “ANCHOR (FEET & GROUND)” → “GROUND FLOW”

- “ENGINE (HIPS & SHOULDERS)” → “ENGINE FLOW”
 - “WHIP (ARMS & BAT)” → “BARREL FLOW”
 - Updated descriptions to match new definitions
2. **components/momentum-transfer-card.tsx**
 - Updated visible label: “Power Flow” → “Engine Flow”
 - Note: Component already used “Ground Flow” and “Barrel Flow” correctly
 - Internal variable names (`powerFlow`) preserved for backward compatibility
 3. **components/four-b-tile.tsx**
 - Updated Body description: “Anchor • Engine • Whip” → “Ground • Engine • Barrel”
 4. **app/drills/drills-client.tsx**
 - Updated drill categories:
 - “Anchor” → “Ground Flow”
 - “Engine” → “Engine Flow”
 - “Whip” → “Barrel Flow”
 - Categories array now:


```
['All', 'Ground Flow', 'Engine Flow', 'Barrel Flow', 'Tempo', 'General']
```

Admin/Coach Views

1. **app/admin/session/[id]/session-detail-client.tsx**
 - Updated card title: “Legacy A/E/W Scores” → “Flow Scores”
 - Updated score labels:
 - “Anchor” → “Ground Flow”
 - “Engine” → “Engine Flow”
 - “Whip” → “Barrel Flow”
 - Internal field names (`session.anchor` , `session.engine` , `session.whip`) preserved

Coach Rick & Momentum Transfer

1. **lib/momentum-coaching.ts**
 - Updated file header comment:
 - “Power Flow (Hips → Torso)” → “Engine Flow (Hips → Torso)”
 - Updated coaching text throughout:
 - “Your power flow has a leak” → “Your engine flow has a leak”
 - “Ground Flow → Power Flow → Barrel Flow” → “Ground Flow → Engine Flow → Barrel Flow”
 - “Your Power Flow is strong” → “Your Engine Flow is strong”
 - Updated all zone name mappings:


```
'powerFlow' ? 'Power Flow' → 'powerFlow' ? 'Engine Flow'
```
 - Updated detail paragraphs to use “Engine Flow” consistently
 - Internal variable names (`powerFlowScore` , `powerFlow`) preserved for backward compatibility
-

What Was NOT Changed

Preserved for Backward Compatibility

- ✓ **TypeScript Interfaces:** All prop names like `anchorScore`, `engineScore`, `whipScore` remain unchanged
- ✓ **Database Fields:** No database schema changes (as specified)
- ✓ **Internal Variables:** Variables like `anchor`, `engine`, `whip`, `powerFlow` remain unchanged
- ✓ **API Field Names:** Request/response bodies use existing field names
- ✓ **Scoring Engine Logic:** No changes to calculation logic or scoring algorithms

Helper Mapping Pattern

Components use this pattern to separate internal names from display names:

```
// Internal variable names preserved
const ground = groundFlowScore ?? anchorScore ?? 0;
const power = powerFlowScore ?? engineScore ?? 0;
const barrel = barrelFlowScore ?? whipScore ?? 0;

// Display names updated
const zoneName = zone === 'groundFlow' ? 'Ground Flow'
                    : zone === 'powerFlow' ? 'Engine Flow'
                    : 'Barrel Flow';
```

User-Facing Changes

Dashboard & Session Detail

- Players now see “Ground Flow / Engine Flow / Barrel Flow” cards instead of “Anchor / Engine / Whip”
- Descriptions updated to match new definitions
- Visual styling unchanged (same colors, icons, animations)

Drills Page

- Drill filter tabs now read:
 - “Ground Flow” (lower body drills)
 - “Engine Flow” (core/torso drills)
 - “Barrel Flow” (barrel path/hands drills)

Momentum Transfer Card

- Sub-scores now labeled:
 - “Ground Flow” (Ground → Hips)
 - “Engine Flow” (Hips → Torso)
 - “Barrel Flow” (Torso → Barrel)

Coach Rick Analysis

- All coaching text updated:
 - “Your ground flow is inconsistent...”
 - “Your engine flow has a leak...”

- “Your barrel flow is mistimed...”
- Structured reports use new terminology throughout
- Strengths/opportunities bullets updated

Admin Views

- Session detail pages show “Flow Scores” with Ground/Engine/Barrel labels
- All visible text updated while internal queries remain unchanged

Testing Performed

TypeScript Compilation

```
yarn tsc --noEmit
```

✓ **Result:** No errors

Next.js Build

```
yarn build
```

✓ **Result:** Build successful

✓ **All routes compiled:** 66/66 routes

✓ **No runtime errors**

Manual Verification Checklist

Player UI

- [x] Dashboard shows new terminology
- [x] Session detail shows “Ground / Engine / Barrel” cards
- [x] Momentum Transfer card uses new labels
- [x] Drill categories updated
- [x] 4B System tile shows correct description

Coach/Admin UI

- [x] Admin session detail shows “Flow Scores”
- [x] Labels updated to Ground/Engine/Barrel

Coach Rick

- [x] Coaching text uses new terminology
- [x] Structured reports updated
- [x] Energy flow descriptions updated

Screens Verified

Player Screens

1. ✓ Dashboard (main)

2. ☒ Dashboard → Body (4B detail)
3. ☒ Video Detail / Analysis page
4. ☒ Session detail page
5. ☒ Drills page (filter tabs)
6. ☒ Progress charts

Admin Screens

1. ☒ Admin Session Detail
2. ☒ Admin Reports (weakest flow display)
3. ☒ Admin Sessions list

Coach Rick

1. ☒ Momentum coaching text
2. ☒ Structured report paragraphs
3. ☒ Strengths/opportunities bullets
4. ☒ Next session focus

Database Compatibility

Existing Schema Preserved

Video Model:

```
model Video {  
  anchor Int?  
  engine Int?  
  whip   Int?  
  // ... other fields  
}
```

Lesson Model:

```
model PlayerLesson {  
  anchorScore Int?  
  engineScore Int?  
  whipScore   Int?  
  // ... other fields  
}
```

- ☒ **No migrations required**
 - ☒ **No data migration needed**
 - ☒ **Existing data fully compatible**
-

Coach Rick Prompt Examples

Before:

Your power flow has a leak—the core isn't fully accepting what the hips started.

After:

Your engine flow has a leak—the core isn't fully accepting what the hips started.

Before:

Your energy flow through Ground Flow → Power Flow → Barrel Flow is balanced.

After:

Your energy flow through Ground Flow → Engine Flow → Barrel Flow is balanced.

Implementation Strategy

Approach Used

1. **Searched** for all instances of “Anchor”, “Engine”, “Whip”, “AEW” in the codebase
2. **Prioritized** player-facing UI components first
3. **Updated** visible text while preserving internal variable names
4. **Verified** admin/coach views next
5. **Updated** Coach Rick prompts and coaching logic
6. **Tested** TypeScript compilation and Next.js build
7. **Documented** all changes for future reference

Key Design Decision: Separation of Concerns

Display Layer (Updated):

- All visible labels, headings, tooltips
- Coaching text and explanations
- Card titles and descriptions

Data Layer (Unchanged):

- Database field names
- API request/response fields
- TypeScript prop names
- Internal variables

This approach ensures:

- ☒ Clean user experience with new terminology
- ☒ Zero breaking changes to existing code
- ☒ Full backward compatibility
- ☒ Easy rollback if needed

Future Considerations

Optional: Internal Naming Update






If desired in a future phase, internal names could be updated:

1. Create new database fields: `groundFlow` , `engineFlow` , `barrelFlow`
2. Migrate existing data: `anchor` → `groundFlow` , etc.
3. Update TypeScript interfaces
4. Update API contracts
5. Deprecate old field names






Not recommended immediately as current approach works well and maintains full compatibility.

Summary

What Changed

-  All visible UI text updated to “Ground Flow / Engine Flow / Barrel Flow”
-  Coach Rick coaching text updated throughout
-  Momentum Transfer explanations updated
-  Drill categories renamed
-  Admin views updated





What Stayed the Same

-  Database schema (no migrations)
-  TypeScript prop names
-  API field names
-  Internal variable names
-  Scoring engine logic

Impact

- **User-Facing:** All visible text now uses new flow terminology
 - **Developer-Facing:** No breaking changes, full backward compatibility
 - **Data:** No migration needed, existing data works as-is
-

Deployment Status

-  **TypeScript:** Clean compilation
 -  **Build:** Successful (66/66 routes)
 -  **Testing:** All screens verified
 -  **Ready for Production**
-

Work Order: Flow System Rebrand (Ground / Engine / Barrel)

Status:  Complete

Date: November 27, 2025

Build: Successful

Breaking Changes: None